

# Jonathan Gratch

Institute for Creative Technologies  
Department of Computer Science  
University of Southern California  
12015 Waterfront Dr., Playa Vista, CA 90094

gratch AT ict.usc.edu  
<https://people.ict.usc.edu/~gratch/>

## Research Interests

Artificial Intelligence, affective science, cognitive science, affective-computing, multi-agent systems.

## Education

Ph.D. in Computer Science, University of Illinois, June 1995  
Thesis: On Efficient Approaches to the Utility Problem in Adaptive Problem Solving  
DOCTORAL COMMITTEE: G. F. DeJong (Chair), J. I. Marden, L. B. Pitt, L. A. Rendell, M. J-P. Shaw

M.S. in Computer Science, University of Illinois, May 1993.  
B.A. magna cum laude in Computer Science, University of Texas at Austin, May 1986.

## Professional Experience

Institute for Creative Technologies, University of Southern California  
Director and Research Professor of Computer Science and Psychology. Head a group researching techniques for incorporating emotions, personality, and story into virtual training environments.  
September 2013 - Present

Institute for Creative Technologies, University of Southern California  
Associate Director and Research Associate Professor of Computer Science and Psychology.  
November 2012 – September 2013

Institute for Creative Technologies, University of Southern California  
Associate Director and Research Associate Professor of Computer Science  
March 2007 – November 2012

Institute for Creative Technologies, University of Southern California

Project Leader and Research Associate Professor of Computer Science  
July 2006 – March 2007

Institute for Creative Technologies, University of Southern California  
Project Leader and Research Assistant Professor of Computer Science  
June 2000 - July 2006

Information Sciences Institute, University of Southern California  
Computer Scientist and Research Assistant Professor of Computer Science  
Performed research and development into real-time planning techniques, multi-agent cooperative behavior, and behavioral modeling learning.  
August 1995 - June 2000

Beckman Institute, University of Illinois at Urbana-Champaign  
Research Assistant. Developed machine learning techniques for acquiring problem solving heuristics - research lead to significant problem solving improvements on the Deep Space Network scheduling system, a real-world scheduling application, and in several planning domains. Focused on both theoretical analysis of these learning techniques and their application to practical industrial problems.  
Fall 1989 - July 1995

Jet Propulsion Laboratory, California Institute of Technology  
Research Consultant. Worked on learning approach for the Deep Space Network scheduling project.  
July 1992 - October 1992, February 1993, September 1994

## **University Service**

### **Committees:**

Provost University Research Committee (2017-2019)  
Graduate Student Assistantship Committee (2000-2003; 2011-2014)  
Research Faculty Merit Committee (Chair, 2007; 2015-2017)  
Committee for Research Faculty Applications (2007-2008)

### **Courses:**

CS534: Affective Computing (developed), Fall 2006, Spring 2009, Fall 2011, Spring 2014, Fall 2015, Fall 2017, Spring 2018, Spring 2020  
CS541: Artificial Intelligence Planning, Fall 2000  
CS593: Autonomous Learning and Discovery Agents, Fall 1997

### **Graduate Students:**

Wenji Mao, PhD 2006  
Thesis: Modeling Social Causality and Social Judgment in Multi-agent Interactions  
Anna Okhmatovskaia, M.S. 2006  
Hyeoksoo Kim, PhD 2008

Thesis: A Planner-Independent Approach to Human-Computer Interactive Planning  
Celso de Melo, PhD 2012  
Thesis: The Interpersonal Effect of Emotion in Decision-making and Social Dilemmas  
Lixing Huang, PhD 2013  
Thesis: Parasocial Consensus Sampling: Modeling Human Nonverbal Behaviors from Multiple Perspectives  
Zahra Nazari, PhD 2017  
Thesis: Automated Negotiation with Humans  
Johnathan Mell, PhD 2020  
Thesis: A Framework for Research in Human-Agent Negotiation  
Emmanuel Johnson, PhD 2021  
Thesis: Improving Negotiation Training Through Automated Personalized Feedback  
Su Lei, PhD 2023  
Thesis: Building and Validating Computational Models of Emotional Expressivity in a Natural Social Task  
Kushal Chawla (co-advisor), PhD 2024  
Thesis: Computational foundations for mixed-motive human-machine dialogue  
Jessie Hoegen, PhD 2024  
Thesis: Decoding Situational Perspective: Incorporating Contextual Influences into Facial Expression Perception Modeling  
Sophie Mallaro (left program for industry)  
James Hale  
Bin Han  
Ala Tak

**Dissertation Committees:**

Lixing Huang (USC), Chair  
Celso de Melo (USC), Chair  
Hyeoksoo Kim (USC), Chair  
Wenji Mao (USC), Chair  
Sejin Oh (GIST Korea), Member  
Ahyoung Choi (GIST Korea), Member  
Ning Wang (USC), Member  
Abe Kazemzadeh (USC), Member  
Jina Lee (USC), Member  
Marc Sparagen (USC), Member  
Nan Jing (USC), Member  
Henriette van Vugt (Vrije Universiteit), Member  
Mei Si (USC), Member  
Brent Lance (USC), Member  
Robert Marinier (University of Michigan), Member  
Evan Drumwright (USC), Member  
Erdan Gu (University of Pennsylvania), Member

Janusz Marecki (USC), Member  
Young-jun Kim (USC), Member  
Matheen Siddiqu (USC), Member  
Dusan Jan (USC), Member  
Derya Ozkan (USC), Member  
Rong Yang (USC), Member  
James Pita (USC), Member  
Jonathan Ito (USC), Member  
Jerry Lin (USC), Member  
Elnaz Nouri (USC), Member  
Thanh Nguyen (USC), Member  
Matthew Brown (USC), Member  
Sunghyun Park (USC), Member  
Joan Wang (Rochester), Member  
Goncalo Periera (Universidade de Losboa), Member  
Zhaojun Yang (USC), Member  
Jeroen de Man (Vrije Universiteit), Member  
Katelyn Swift-Spong (USC), Member  
Saba Khashe (USC), Member  
Eunkyung Kim (USC), Member  
Naveen Kumar (USC), Member  
Roshni Raveendhran (USC), Member  
Zahra Nazari (USC), Chair  
Laura Garcia (USC), Member  
Aaron Schlenker (USC), Member  
Sara McCarthy (USC), Member  
Behnaz Farahi (USC), Member  
YuYu Xu (Northeastern), Member  
Johnathan Mell (USC), Chair  
Laura Garcia (USC), Member  
Emmanuel Johnson (USC), Chair  
Karen Tatarian (Sorbonne), Member  
Yuwen Wang (USC), Member

### **Post-doctoral Training**

Ahyoung Choi, PhD Computer Science  
Celso de Melo, PhD Computer Science  
Sin-Hwa Kang, PhD Communications  
Peter Khooshabeh, PhD Psychology  
Gale Lucas, PhD Psychology  
Wendy Treynor, PhD Psychology  
Ning Wang, PhD Computer Science

### **Visiting Students / Researchers Trained**

Sushrita Rackshit, University of Michigan, 2024  
Zora Rong, USC, 2024

Ziyi Cui, USC, 2024  
Eleanor Lin, Columbia, 2023  
Cleo Yao, Cal Poly Pomona, 2022  
Sylvia Li, 2022  
Seoyoung Kang, KAIST, 2022  
Jett Bronstein, Pomona College, 2020  
Maria-Angelika-Nikita, Stanford University, 2020  
Aike Horstmann, University of Duisburg-Essen, 2020  
Yixian Li, Western University, 2019  
Minha Lee, Eindhoven University, 2018  
Sarah Roediger, University of Twente, 2018  
Lisanne Pauw, University of Amsterdam, 2017  
Guillaume Prevost, French Military Academy 2017  
Adrien Biciacci, French Military Academy 2017  
Shannon Monahan, American University of Paris, 2017  
James Finch, Michigan State University, 2017  
Helen Wauck, University of Illinois at Urbana-Champaign, 2017  
Jaina Lehr, University of Duisburg-Essen, 2017  
Xijing Wang, University College London, 2017  
Sanne van Waveren, University of Twente, 2016  
Clara Peters, University of Duisburg-Essen, 2016  
Lilly-Marie Leisse, University of Duisburg-Essen, 2016  
Lisa-Sophie Tasch, University of Duisburg-Essen, 2016  
Veronica Chu, University of California, Irvine, 2016  
Shari Lieblich, Temple University, 2015  
Danielle Shore, Oxford University, 2015  
Rens Hoegen, University of Twente, 2014-2016  
Eli Fessler, Pomona College, 2014  
Mohammad Shayganfar, Worcester Polytechnic Institute, 2014  
Jeroen van Vroonhoven, University of Twente, 2014  
Mathieu Gregorie, Laval University, 2013  
Aisha King, Bard College, 2013  
Peiyun Hu, Tsinghua University, 2013  
Lea Schmidt, University of Duisburg-Essen, 2013  
Joan Wang, RPI, 2013  
Gina Reuther, University of Duisburg-Essen, 2012  
Guillaume Cosnard, French Military Academy, 2012  
Emilie Lostaine, French Military Academy, 2012  
Dimitrios Antos, Harvard, 2012  
Andy Smith, NCSU, 2012  
Ahyoung Choi, GIST Korea, 2011  
Bilge Karacora, University of Duisburg-Essen, 2011  
Sylwia Hyniewska, Telecom ParisTech, 2011  
Wim van der Ham, Twente, 2010  
Philip Kulms, University of Duisburg-Essen, 2010  
Tyler Baldwin, Michigan State University, 2010

Jennifer Talevich, USC, 2010  
Jana Appel, University of Duisberg-Essen, 2010  
Birgit Endrass, University of Augsburg, 2009  
Astrid von der Puttlin, University of Duisburg-Essen, 2009  
Sejin Oh, GIST Korea, 2007  
Francois Courbier, French Military Academy, 2006  
William Rious, French Military Academy, 2006  
Mark ter Maat, University of Twente, 2006  
Corne Versloot, University of Twente, 2006  
Rick van der Wirt, University of Twente, 2005  
Arien Kock, University of Twente, 2004  
Martin Maatman, Twente, 2004  
Timon Mueller, Twente, 2003

## **Grants and Contracts**

Autonomy-mediated Trust, AFOSR (2023-2025), \$747,600, PI  
Modeling Values in Conflict Negotiations, US Gov (2022-24), \$551,500, PI  
Context-based emotion-understanding for human-machine teaming, ARO (2022-2024), \$1,200,000, PI  
Research Gift. Honda Research Institute (2020), \$15,000, PI  
Psychophysiological, Robotic and Analytical Equipment for Research on the Underlying Mechanisms of Human-Machine Team Interactions, AFOSR (2019), \$130,000, PI  
Adolescent responses to varying environments in virtual reality simulations, NIH R21 (2019-2023), \$440,000, Co-PI  
Organizational Implications of Autonomy-Mediated Interaction, OSD (2018-2023), \$2,500,000, PI  
Examining oxytocin as a causal mechanism for long-term bonding between humans and autonomy, OSD (2018-2021), \$320,000 (USC-portion), Co-PI  
Advancing the Use of Automated Dialogue Systems for Teaching Communication and Interpersonal Skills, NSF (2018-2021), \$744,863, PI  
Affective Computing Research, Fujitsu (2018-2019), \$207,926, PI  
Strategic Emotions for Leader Development, ARL (2018-2019), \$549,000, PI  
Virtual Human Assessment, ARL (2018-2019), \$440,952, PI  
Strategic Emotions for Leader Development, ARL (2014-2017), \$1,7192,192, PI  
Virtual Human Assessment: Developing a theory for how human-like traits benefit (or harm) human-machine interaction, ARL (2014-2017), \$1,445,792, PI  
EAGER: Constructing Trust and Rapport between Built Environments and Their Users Through Relational Elements. NSF, (2015-2017), \$250,000, Co-PI  
Rapport with artificial agents. Honda Research Institute (2015-2016), \$100,000, Co-PI  
Modeling Interpersonal Trust and Conflict: a Dynamic Systems Perspective. ARL, (2015-2016), \$300,000. PI  
Social Function of Emotions: Modeling and Exploiting the Social Function of Emotions in Mixed Human-Machine Teams, AFOSR (2015-2018), \$1,255,373, PI  
Communicating appraisals and social motives (CASM): Interpersonal effects of regulated and unregulated emotion expression, NSF ORA (2014-2016), \$300,000, PI

Exploring the Implications of Virtual Human Research for Human-Robot Teams, Army Research Laboratory HRED (2013-2014), \$100,000, PI

Achieving the Interpersonal Function of Emotion in Human-Machine Collaboration, NSF SoCS (2012-2015), \$749,969.00, PI

Detection and Computational Analysis of Psychological Signals: Evaluation and Assessment. DARPA (2011-2013), \$626,423, PI

Detection and Computational Analysis of Psychological Signals. DARPA (2011-2013), \$4,330,111, Co-PI

HCC: Small: Learning by Explaining to a Virtual Human, NSF (2009-2012), \$496,000, PI

Validating a computational model of emotion's consequences for decision-making, AFOSR, \$933,000 (2009-2012), Co-PI

Stress and Emotion Project, U.S. Army RDECOM (2009), \$826,493, PI

MAJOR: Collaborative Research: Modeling Creative and Emotive Improvisation in Theatre, NSF (2008-2010), Senior personal

Virtual Humans in Kinetic Environments, USC/ICT, \$500,000 (2008), PI

Is rapport in the eye, ear, or mind of the beholder? Phase 2. U.S. Army RDECOM (2008), \$100,000, PI

HCC: Building Rapport with Virtual Humans, NSF (2007-9), \$450,000, PI

Collaborative Research—Dyadic rapport within and across cultures: Multimodal assessment of human-human and human-computer interaction, NSF (2007-2009), \$650,000, Co-PI

Quantifying the Human Interactional Efficacy of Advanced Virtual Human Agents for Training, U.S. Army RDECOM, \$116,000 (2008), PI

Is rapport in the eye, ear, or mind of the beholder? U.S. Army RDECOM (2007), \$100,000, PI

Modeling and Validating Emotion's Impact on Cognition, AFOSR, \$840,000 (2006-08), Co-PI

SocSim, Bavaria California Technology Center (2006), \$4000, Co-PI

Stress and Emotion Project, U.S. Army RDECOM (2006-7), \$1,775,000, PI

Virtual Human Rapport, U.S. Army RDECOM, (2006) \$100,000, PI

HUMAINE Network on Emotion and Man-machine Interaction, EU, \$20,000 (2005-7), Co-PI

Stress and Emotion Project, U.S. Army RDECOM, \$867,000 (2005), PI

Stress and Emotion Project, Army Research Office, \$800,000 (2004), PI

Workshop on Perceptive Animated Interfaces and Virtual Humans, NSF, \$40,000, 2003, Co-PI

Stress and Emotion Project, Army Research Office, \$580,000 (2003), PI

Stress and Emotion Project, Army Research Office, \$398,000 (2002), PI

Emotional Synthetic Forces, Army Research Institute, \$294,000 (1997-2000), PI

## **Honors and Professional Activities**

### **Editorial Board:**

Guest Editor, Cognition and Emotion issue on Artificial Intelligence and Emotion Theories (2024)

Guest Editor, IEEE Transactions on Affective Computing issue on ethics (2022)

Editor-in-Chief (founding), IEEE Transactions on Affective Computing (2010-2014) –  
Impact factor on departure: 3.467 (current 14)  
Associate Editor, Affective Science (2019-)  
Associate Editor, Emotion Review (2007-)  
Associate Editor, Journal of Autonomous Agents and Multiagent Systems (2010-  
2024)  
Guest Editor, IEEE Signal Processing Magazine, special issue on Intelligent Signal  
Processing for Affective Computing (2019-2020)  
Guest Editor, Frontiers in Psychology, Special Topic on Modeling Virtual Humans for  
Understanding the Mind (2019-2020)  
Guest Editor, ACM TiiS, special issue on Trust in Autonomy (2017)  
Guest Editor, IEEE Intelligent Systems, special issue on Social and Economic  
Computing

**Elected Office:**

Steering Committee Chair, IEEE Transactions on Affective Computing (2015-2017)  
President, HUMAINE Association (2009-2011)  
President Elect, HUMAINE Association (2007-2009)  
Executive Committee Member, HUMAINE Association (2007-2013)

**Board Membership:**

Editor Search Committee, APA Technology, Mind and Behavior (2018-2019)  
Steering Committee Member, APA Technology, Mind and Society (2018)  
Publication Committee Member, Society for Affective Science (2018-)

**Program Chair or Co-Chair:**

ACM International Conference on Multimodal Interaction, Advisory Chair, 2024  
International Society for Research on Emotion, General Chair, 2022  
AAMAS, Area Chair, 2022, 2023  
International Joint Conference on Artificial Intelligence, Area Chair, 2016-2018, 2021  
AAAI Conference on Artificial Intelligence, Area Chair, 2020  
Affective Computing and Intelligent Interaction, General Co-Chair, 2019  
Affective Computing Pre-Conference at International Society for Research on  
Emotions, Co-Chair 2019  
Affective Computing Pre-Conference at Society for Affective Science, Co-Chair 2017  
Affective Computing and Intelligent Interaction Conference, Program Chair, 2015  
International Workshop on Emotion Representations and Modelling for Human-  
Computer Interaction Systems, Co-Chair 2013  
Affective Computing and Intelligent Interaction Conference, Demo Chair, 2009  
Affective Computing and Intelligent Interaction Conference, Tutorial Chair, 2007  
Workshop on rapport and social emotions, Chair, 2007  
International Workshop on Modeling the Cognitive Antecedents and Consequences of  
Emotion, Co-chair, 2006  
International Conference on Intelligent Virtual Agents, Chair, 2006  
International Working Conference on Intelligent Virtual Agents, co-chair, 2006



International Workshop on Virtual Humans: Design Criteria, Techniques and Case Studies for Creating and Evaluating Interactive Experiences, Workshop Co-chair, 2004

Workshop on Accelerating Progress in Perceptive Animated Agents and Virtual Humans, Workshop Co-chair, 2004

International Workshop on Virtual Humans, Workshop Co-chair, 2002

19th International Soar Workshop, Workshop Chair, 2000

**Senior Programming Committee Member:**

International Joint Conference on Artificial Intelligence (2018, 2024)

APA Technology, Mind and Society (2021)

International Conference on Autonomous Agents and Multiagent Systems (2010,2013-2021)

International Conference on Intelligent Virtual Agents (2014, 2015, 2019)

AAAI Conference on Artificial Intelligence (2015, 2016, 2017)

International Conference on Multimodal Interaction (2014, 2015)

International Conference on Autonomous Agents and Multiagent Systems, Challenges and Visions Track (2014)

International Joint Conference on Artificial Intelligence (2013)

International Conference on Affective Computing and Intelligent Interaction (2013)

International Conference on Automatic Face and Gesture Recognition (2013)

International Conference on Intelligent Virtual Agents, Organizing Committee (2006-)

Conference on Behavioral Representation in Modeling and Simulation (2007)

International Conference on Virtual Storytelling (2003)

National Conference on Artificial Intelligence (1998)

**Program Committee Member:**

International Society for Research on Emotions (2019)

International Association of Conflict Management (2015)

Cognitive Science Conference (2004, 2014)

AAAI Fall Symposium on Integrated Cognition (2014)

International Workshop on Context Based Affect Recognition (2012)

International Conference on Intelligent Virtual Agents (2012)

International Conference on Affective Computing and Intelligent Interaction (2011)

International Society for Research on Emotions (2011)

International Workshop on Human Behavior Recognition (2010)

Workshop on Specification and Computation of Affect in Collaborative and Social NETWORKS (2009)

International Symposium on Ubiquitous Virtual Reality (2008-2009)

International Workshop on Social Computing (2008)

Cognitive Science Conference, Prize Committee (2007)

International Conference on Cognitive Modeling (2007)

International Society for Gesture Studies (2007)

International Conference on Autonomous Agents and Multiagent Systems (2002-2008)

National Conference on Artificial Intelligence (1996, 1997, 1998,

2004, 2006, 2010)  
Workshop on Perception and Interactive Technologies (2005, 2006)  
International Conference on Affective Computing and Intelligent  
Interaction (2005)  
Portuguese Conference on Artificial Intelligence (2005)  
Conference on Behavior Representation in Modeling and Simulation (2003)  
Conference on Computer Animation and Social Agents (2003)  
International Conference on Autonomous Agents (2001)  
International Conference on Virtual Storytelling (2001)  
International Conference on Artificial Intelligence Planning  
Systems (2000)  
International Joint Conference on Artificial Intelligence (1997)  
International EMCSR Symposium on Affective Computational Entities (2004)  
IUI workshop on Affective Interactions (2005)  
Workshop on Human-like Intelligent Interfaces (2004)  
Workshop on Affective Dialogue Systems (2004)  
AAAI Spring Symposium on Emotion Architectures (2004)  
Workshop on Affective and Attitude User Modeling (2003)  
International Working Conference on Intelligent Virtual Agents (2003)  
Florida Artificial Intelligence Research Symposium (1998)

**Reviewer:**

Air Force Office of Scientific Research (2024)  
PNAS NEXUS (2024)  
NSF Panel (2024)  
RO-MAN (2024)  
Philosophical Transactions (2022)  
International Journal on HCI (2022)  
Negotiation Journal (2022)  
IEEE Magazine (2021)  
Group Decision Making and Negotiation (2021)  
Trends in Cognitive Science (2020)  
Swiss National Science Foundation (2020)  
Proceedings of the National Academy of Science (2019)  
Emotion (2019)  
IMWUT (2018-2019)  
Emotion Review (2015-2016,2018)  
Journal of Experimental Child Psychology (2018)  
International Journal of Human-Computer Studies (2018)  
Israel Science Foundation (2017)  
Communications of the ACM (2017)  
IEEE Computer (2017)  
Computer Speech and Language (2017)  
NIH Study Section (2016-2017)  
Journal of AI Research (2017)  
CHI (2017)

CHI Play (2016)  
PlosOne (2016)  
Dutch National Science Foundation (2010, 2013, 2016)  
AI Magazine (2015)  
IEEE Transactions on Affective Computing (2011,2015)  
International Conference on Human Robot Interaction (2015)  
Frontiers in Psychology (2015)  
United States – Israel Binational Science Foundation (2015)  
International Conference on Multimodal Interaction (2015)  
Journal of Human Computer Interaction (2014)  
Journal of Computer Science and Technology (2014)  
Air Force Office of Scientific Research (2009-2014)  
Social Psychological and Personality Science (2011, 2014)  
Cognitive Science (2009, 2013)  
Portuguese NSF (2012)  
NIH/NIDA (2012)  
IEEE Transactions on Autonomous Mental Development (2012)  
Journal of Experimental Social Psychology (2011)  
Psychophysiology (2011)  
Transactions of Affective Computing (2011)  
Transactions on Interactive Intelligent Systems (2011)  
Autonomous Robotics (2010)  
Oxford University Press (2010)  
NSF Review Panel, Social-Computational Systems (2010)  
NSF Career Award (1998, 2009)  
Transactions on Vision and Computer Graphics (2009)  
Journal of Brazilian Computer Society  
European Science Foundation, Committee for the Social Sciences (2009)  
Air Force Office of Scientific Research (2009)  
International Journal of Human-Computer Studies (2009)  
Artificial Intelligence Journal (2007, 2008)  
Journal of Autonomous Agents and Multi-agent Systems (2008)  
Adaptive Behavior (2008)  
NSF Review Panel, CreativeIT program (2007)  
Language and Speech (2007)  
Journal of Natural Language Engineering (2007)  
Cognition and Emotion (2006)  
Transactions in Robotics (2006)  
International Journal of Humanoid Robotics (2005, 2006)  
Journal of Computer Science Technology (2006)  
Eurographics (2005)  
Journal of Cognitive Systems Research (2004, 2006)  
Journal of Artificial Intelligence Research (2003, 2004)  
AI Magazine (2002)  
Journal of Visualization and Computer Animation (2002)  
User Modeling and User-Adapted Interaction: An International Journal

(special Issue on User Modeling and Intelligent Agents. (2001)  
IEEE Transactions on Systems, Man, and Cybernetic (special issue on  
"Socially Intelligent Agents - The Human in the Loop"), 2001  
Machine Learning Journal (1996)  
Journal of Artificial Intelligence Research (1996)  
Journal of Decision Support Systems (1995)  
Annals of Operation Research (1995)  
National Conference on Artificial Intelligence Student Program (1994)  
European Conference on Artificial Intelligence (1994)  
Third International Workshop on Knowledge Compilation and Speed-up  
Learning (1993)

### **Miscellaneous:**

Board Member, International Society for Research on Emotion (2024-)  
Publication Committee Member, Society for Affective Science (2019-)  
Scientific Advisory Board for Automated Negotiation Agents Competition (2018-)  
Advisory Board Member, Psychology of Technology Institute (2017-)  
National Academy of Sciences (NRC): Committee member for study on the context of  
military environment: social and organization factors (2013)  
International Joint Conference on Artificial Intelligence (IJCAI), Local Arrangements  
Committee, 2009  
National Academy of Sciences (NRC): Committee member for study on  
Opportunities in Basic Research in the Behavioral and Social Sciences for the  
US Military  
Invited Research Fellow, Center for Advanced Media Research Amsterdam, Free  
University Amsterdam (Summer, 2008)  
US Joint Forces Command Study on Large-Scale Joint Experimentation  
Enabled by Scalable Parallel Processor Computing  
DARPA ISAT study on Mixed-Initiative Control and Monitoring within Human-Bot  
Systems, 2001  
Advisory Board Member, UCLA Center for Computational Social Science  
Soar Advisory Board Member  
Senior Member of IEEE  
Member of the International Society for Research on Emotions  
Member of the American Association for Artificial Intelligence  
Member of the HUMAINE Associate for research on emotion and human-machine  
interaction  
Member of the Operations Research Society of America and the Institute  
of Management Sciences

### **Awards**

Best Paper finalists, 12<sup>th</sup> International Conference on Affective Computing and Intelligent  
Interaction, September 2024  
Top Downloaded Article, The Negotiation Journal 2023  
Integrative Affective Science Award, Society for Affective Science 2022

Most influential paper award, International Foundation for Autonomous Agents and Multiagent Systems 2022

Best Student Paper, International Conference on Advances in Cognitive Systems 2021

Fellow for the Association for the Advancement of Affective Computing, 2021

Finalist, Best Dissertation Award (for Johnathan Mell), 9<sup>th</sup> International Conference on Affective Computing and Intelligent Interaction, October 2021

Best Paper, 21st ACM International Conference on Multimodal Interaction, October 2019

Best Paper Finalist, *International Conference on Autonomous Agents and Multi-Agent Systems*. 2018

Fellow of the Cognitive Science Society, 2017

Best Paper, 18th ACM International Conference on Multimodal Interaction, November 2016

Best Presentation, ACM SIGGRAPH Conference on Motion in Games, October 2016

Best Paper, 11<sup>th</sup> International Conference on Disability, Virtual Reality, and Associated Technologies, September 2016

Best Demo Finalist, International Conference on Autonomous Agents and Multiagent Systems, 2016

Best Demo Paper, International Conference on Affective Computing and Intelligent Interaction, 2015

Best Paper, International Workshop on Automatic Sentiment Analysis in the Wild, 2015

IEEE Computer Society Certificate of Appreciation, 2014

Fellow of the Association for the Advancement of Artificial Intelligence, 2014

UNESCO/Netexplo Award for most innovated and promising digital technologies of the year. UNESCO, Paris, 2014

IEEE Senior Member, 2014

Best Paper Finalist, International Conference on Autonomous Agents and Multiagent Systems, 2014

Best Paper, IEEE International Conference on Face and Gesture, 2013

ACM/SIGART Autonomous Agents award, 2010

Best Paper, International Conference on Autonomous Agents and Multiagent Systems, 2010

Best Paper, International Conference on Affective Computing and Intelligent Interaction, 2009

Best Paper Finalist, Intelligent Virtual Agents 2009

Best Paper, International Conference on Multimodal Interaction, 2008

Best Paper, Intelligent Virtual Agents 2008

Best Paper, Interservice/Industry Training, Simulation & Education Conference (I/ITSEC), Emerging Concepts and Innovative Technology track, 2007

Best Paper Finalist, Intelligent Virtual Agents 2007

"Best of AAMAS" special issue article, Journal of Autonomous Agents and Multiagent Systems, 2005

Best Paper, Autonomous Agents and Multiagent Systems 2003, Innovative Systems Track

Best Paper, Autonomous Agents Conference 2001, Software Prototype Track

Recommended Reading List, Computer Generated Forces and Behavioral Simulation 2002

Best Paper, Computer Generated Forces and Behavioral Simulation 2001,

NASA Group Achievement Award for Advanced Development for the Deep Space Mission System, 1999

### **Invited Lectures, Seminars, and Colloquia:**

Keynote Speaker, IEEE International conference on Automatic Face and Gesture Recognition, Clearwater, FL, May 2025

Invited Panelist, Global AI Summit, Riyadh Saudi Arabia, September 2024

Keynote Speaker, Affective Computing Preconference at the Meeting of the International Society for Research on Emotion, Belfast, UK, July 2024

Keynote Speaker, ACM Conversational User Interface Conference, Luxembourg, July 2024

Invited Speaker, Virtue and Affect for Social Robots, Fullerton, CA April 2024

Keynote Speaker, 5th Workshop on Modeling Socio-Emotional and Cognitive Processes from Multimodal Data In the Wild. Paris, France, October 2023

Invited Speaker, Behavioral Studies Colloquium. ETH Zurich. September 2023

Keynote Speaker, ANIMATAS Symposium on Human-Machine Interaction, June 2022

Invited Speaker, British Royal Society meeting on the Science of Face-to-face Interaction, April 2022

Invited Speaker, University of Florida AI Seminar Series, November 2021

Keynote Speaker, ANIMATAS Symposium on Human-Machine Interaction, October 2021

Distinguished Lecture Speaker, UCSB Department of Communication, October 2021

Invited Panel Chair, 9<sup>th</sup> International Conference on Affective Computing and Intelligent Interaction, September 2021

Invited Speaker, SurveyMonkey ML External Speaker Series, June 2021

Keynote Speaker, Conference on the Fantastic in Media Entertainment, May 2021

Invited Seminar, Max-Planck Center for Humans and Machines, November 2020

Distinguished Speaker, ISRE Webinar Series, October 2020

Invited Panelist, Harvard Program on Negotiation, Boston, May 2020

Keynote Speaker, 7<sup>th</sup> International Conference on Human-Agent Interaction, Kyoto Japan, October 2019

Invited Panelist, American Employment Law Council Conference, Ojai, CA, October 2019

Keynote Speaker, Workshop on Methodology and/of Evaluation of IVAs, Paris, France, July 2019

Research Colloquium, Northwestern University, March 2019

Research Colloquium, UC Merced, February 2019

Keynote Speaker, Society for Cognitive Studies of the Moving Image, June 2018

Invited Panelist, American Psychological Society, May 2018

Research Colloquium, Oxford University, February 2018

Research Colloquium, TU Delft, February 2018

Invited Panelist, NSF Cognitive Assistants Workshop, November 2017

Keynote Speaker, International Society for Research on Emotion, St. Louis, July 2017

Invited Panelist, SIGGRAPH Panel on Emotion and Affect in VR, July 2017

Invited Panelist, Microsoft Research Faculty Summit, June 2017

Invited Seminar, Samsung Research, May 2017

Keynote Speaker, International Conference on Computer Animation and Social Agents, Korea, May 2017

Invited Seminar, Stanford University, January 2017

Invited Colloquium, Naval Research Laboratory, Washington D.C., December 2016

Distinguished Lecture, Northwestern University, Chicago, October 2016

Invited Colloquium, University of California, Irvine, October 2016

Keynote Speaker, International Joint Conference on Artificial Intelligence, NYC, July 2016

Invited Speaker, Virtual Social Interaction Workshop, MediaCity, UK, July 2016

Invited Speaker, International Summer School in Affective Sciences, July 2016

Invited Panelist, Talkspace Clinical Conference on the Future of Therapy, NYC, April 2016

Keynote Speaker, Society for Affective Science, Chicago, March 2016

Invited Speaker, Behavioral Informatics Symposium, Vrije Universiteit Amsterdam, February 2016

Invited Speaker, University of Lisbon, Department of Computer Science, December 2015

Invited Speaker, National Academy of Sciences, Science and Entertainment Exchange, Los Angeles, October, 2015

Invited Panelists, Human Factors and Ergonomics Society Annual Meeting, Los Angeles, October, 2015

Invited Speaker, International Workshop on advanced multimodal affective interaction, Beijing, China, September 2015

Invited Speaker, USC Sidney Harman Academy for Polymathic Study, Los Angeles, September 2015

Invited Panelist, International Society for Research on Emotion, Presidential Symposium, Geneva, Switzerland, July 2015

Invited Speaker, Cardiff University Department of Computer Science, June 2015

Keynote, 4<sup>th</sup> International Workshop on Human-Agent Interaction Design and Models, Istanbul Turkey, May 2015

Invited Speaker, W.V.T. Rusch Engineering Honors Colloquium, February, 2015

Keynote speaker, Army Research Laboratory Fellows Meeting, Aberdeen, MD, October 2014

Distinguished Speaker, Rutgers Center for Cognitive Science, September, 2014

Invited Panelist, the Interservice/Industry Training, Simulation and Education Conferences (I/ITSEC), Orlando, FL, December 2013

Invited Speaker, Georgia Tech Games@GeorgiaTech Seminar Series, November 2013

Keynote speaker, Second International Workshop on Context Based Affect Recognition, Geneva, Switzerland, September 2013

Keynote speaker, Workshop on Empathic and Emotional Agents at the International Conference on Autonomous Agents and Multiagent Systems, Valencia, Spain, June 2012

Invited Panelist, International Conference on Cognitive Modeling, Berlin, April 2012

Invited Speaker, Northwestern University Cognitive Science Seminar Series, Chicago, IL November 2011

Invited Panelist, International Conference on Affective Computing and Intelligent Interaction, Memphis, TN, October 2011

Keynote speaker, Workshop on Standards in Emotion Modeling, Lorentz Center, Leiden. August 2011

Keynote speaker, IEEE International Conference on Automatic Face and Gesture Recognition, Santa Barbara, March 2011

Keynote speaker, Summer School on Affective Computing and Social Signal Processing, Edinburgh, Scotland, August 2010

Keynote speaker, International Conference on Cognitive Modeling, Philadelphia, PA, June 2010

ACM SIGART Award Keynote, International Conference on Autonomous Agents and Multiagent Systems, Toronto, Canada, May 2010

Invited speaker, Social Science Colloquium, University of California, Santa Barbara, April 2010

Invited speaker, SCIS Colloquium Series, Florida International University, November 2009

Invited speaker, University of Maryland virtual brown bag on culture and negotiation, October 2009



Keynote speaker, International Conference on Affective Computing and Intelligent Interaction, Amsterdam, September 2009

Invited speaker, Symposium on Social Interactions in Virtual Worlds, A\*STAR, Singapore, April 2009

Invited speaker, Annenberg Research Seminar, USC Communications Department, March 2009

Panel organizer and speaker, International Conference on Human-robot Interaction, March 2009

Invited speaker, ProjectOne Workshop, University of California, San Diego, December 2008

Invited speaker, AI Festival, Reykjavík University, November 2008

Panel organizer and speaker, National Communications Association, San Diego, November 2008

Carnegie Mellon University, Human Computer Interaction Institute, Seminar Speaker, October, 2008

Keynote speaker, International Symposium on Ubiquitous Virtual Reality, July 2008  
Greifswald University, Department of Psychology, July 2008

Vrije University of Amsterdam, Joint colloquium for Media Psychology and Computer Science, June 2008

University of Duisburg-Essen, Department of Media and Social Psychology, June 2008

NSF Workshop on Human-Computer Interaction for 21st Century Discovery, April 2008

Future of Games Speaker Series, North Carolina State University, April 2008

National Academy of Sciences, Committee on Opportunities in Neuroscience for Future Army Applications, February 2008.

Pomona College, Computer Science Colloquium Series, December 2007

USC Conference on Emotion, Decision Making, and the Brain, August 2007

Computer Game Design Seminar, University of Applied Sciences, Augsburg, Germany, June 2007

National Academy of Sciences, Board on Army Science and Technology, Washington D.C., December 2006.

Technology and Social Behavior Speaker Series, Northwestern University, November, 2006

International Symposium on Robot and Human Interactive Communication (RO-MAN 2006), Hertfordshire, UK, Invited tutorial, September 2006

Novel Translational Research to Treat Social and Communication Deficits in Autism, Marina del Rey, CA, invited speaker, August 2006

Believable Agents Workshop, invited speaker, Marina del Rey, CA, August, 2006

International Conference on Artificial Intelligence and Interactive Digital Entertainment, Marina del Rey, CA, invited speaker, July 2006

ZiF-Zentrum für interdisziplinäre Forschung, invited speaker, Bielefeld, Germany, April 2006

Pedagogical Catalysts for Adaptable Leaders Workshop, invited speaker, Marina del Rey, CA, December 2005

University of Santa Barbara Research Center for Virtual Environments and Behavior, invited speaker, November 2005.

University of Michigan Automotive Research Center, invited speaker, Oct 2005

HUMAINE Network of Excellence on Emotion and Human-Machine Interaction, Invited panel speaker, Newcastle, Northern Ireland, June 2005, June 2006

DARPA Workshop on Technologically Enhanced Training Agents, Marina del Rey, April, 2005

Workshop on Integrated Models of Cognitive Systems, invited speaker, Saratoga Springs, NY, March 2005

Imagina: European Digital Content Creation Trade Show, invited panelist, Monte Carlo, February, 2005

Pell Center for International Relations and Public Policy, December 2004 Conference on Behavioral Representation in Modeling and Simulation, invited panelist, Arlington, VA, 2004

University of Chicago, Psychology Department, 2004

Dagstuhl-Seminar on Evaluating Embodied Conversational Agents, 2004

AAAI Spring Symposium on Affective Architectures, 2004, Invited panel organizer

University of Hertfordshire, Adaptive Systems Research Group, 2003

Soar Workshop, Michigan, 2003

University of Michigan, Psychology Department, 2003

Austrian Research Institute for Artificial Intelligence, 2003

Vienna Workshop on Educational Agents - More than Virtual Tutors, 2003

Symposium on The Dis/simulations of War and Peace, Brown University, 2003

IJCAI Cognitive Modeling Workshop, Acapulco, Mexico, 2003, Invited panel participant

Cognitive Architecture Workshop, Stanford, CA, 2003

Harvard University Artificial Intelligence Group (2002)

Keynote Speaker, PRICAI Workshop on Lifelike Animated Agents, Tokyo, Japan, 2002

Computational Social Sciences Conference, Lake Arrowhead, CA, 2002

Intelligent User Interfaces Conference, 2002, Invited panel participant

Keynote Speaker, Computer Animation Conference, Seoul, Korea, 2001

Conference on the New Biopolitics (Rational Choice is Nearly Dead), UCLA, 2000  
Institute for Research in Cognitive Science, University of Pennsylvania, 2000  
Workshop on Multiagent Spatial Modeling, UCLA, 2000  
MIT Media Lab, 2000  
Brown Department of Media and Cultural Studies, 2000  
Watson Institute for International Studies, Virtual Y2K Conference, 1999  
Jet Propulsion Laboratory, California Institute of Technology, 1992,1996  
Duke University - Department of Computer Science, 1995  
AT&T Bell Labs, 1995  
University of California at Irvine - Department of Computer Science, 1995  
Haverford College - Department of Computer Science, 1995  
AAAI Spring Symposium on Goal Driven Learning, Stanford, CA, 1994  
University of Iowa - Department of Management Sciences, 1992  
NASA Ames Research Center, 1992

## **Books**

Rafa Calvo, Sidney D'Mello, Jonathan Gratch and Arvid Kappas (Eds). *Handbook of Affective Computing*. Oxford University Press. 2015

Jonathan Gratch and Stacy Marsella (Eds.). *Social Emotions in Nature and Artifact*. Oxford University Press, 2014

## **Journal Publications**

Taylor N West, Michael Prinzing, Catherine Garton, Catherine J Berman, Jieni Zhou, James Hale, Jonathan Gratch, Barbara Fredrickson. mproving Social Connection with Weak Ties and Strangers: Effects of a New Micro-Intervention on Interaction Quality and Social Behavior. *Journal of Positive Psychology* (in press)

Alaine Murawski, Vanessa Ramirez-Zohfeld, Johnathan Mell, Marianne Tschoe, Allison Schierer, Charles Olvera, Jeanne Brett, Jonathan Gratch, and Lee A. Lindquist. NegotiAge: Development and pilot testing of an artificial intelligence-based family caregiver negotiation program. *Journal of the American Geriatrics Society* 2024; 72(4): 1112-1121.

Jonathan Gratch, Gretchen Green, Roz Picard, Lachlan Urquhart, and Michel Valstar. Ethics in Affective Computing (Guest Editorial), *IEEE Transactions on Affective Computing* (2024)

Arthur Jago, Roshni Raveendhran, Nathanael Fast and Jonathan Gratch. Algorithmic Management Diminishes Status: An Unintended Consequence of Using Machines to Perform Social Roles. *Journal of Experimental Social Psychology*, vol. 110 (2024)

Arvid Kappas and Jonathan Gratch. These aren't the droids you are looking for: promises and challenges for the Intersection of Affective Science and Robotics/AI. *Affective Science*, vol. 4, pages 580–585 (2024)

M. Sato, K. Terada and J. Gratch, "Teaching Reverse Appraisal to Improve Negotiation Skills." *IEEE Transactions on Affective Computing* 15(3) pp872-884 (2024)

Celso de Melo, Jonathan Gratch, Stacy Marsella and Catherine Pelachaud, Social Functions of Machine Emotional Expressions," *Proceedings of the IEEE Volume: 111, Issue 10*, October (2023)

Alaine Murawski, Vanessa Ramirez-Zohfeld, Allison Schierer, Johnathan Mell, Jonathan Gratch, Jeanne Brett, Lee A Lindquist. Transforming a Negotiation Framework to Resolve Conflicts between Older Adults and Caregivers. *Geriatrics* 8(2) (2023)

Jonathan Gratch. The promise and peril of interactive embodied agents for studying non-verbal communication: a machine learning perspective. *Philosophical Transactions of the Royal Society B*. 378(1875). 2023

Kushal Chawla, Rene Clever, Jaysa Ramirez, Gale Lucas and Jonathan Gratch. Towards Emotion-Aware Agents for Improved User Satisfaction and Partner Perception in Negotiation Dialogues. *IEEE Transactions on Affective Computing* (in press)

Su Lei and Jonathan Gratch. Emotional expressivity is a reliable signal of surprise. *IEEE Transactions on Affective Computing* 14(4). 2023

Jessie Hoegen, David DeVault, Jonathan Gratch. Exploring the Function of Expressions in Negotiation: the DyNego-WOZ Corpus. *IEEE Transactions on Affective Computing* 14(4). 2023.

Lisanne Pauw, Disa Sauter, Gerben van Kleef, Gale Lucas, Jonathan Gratch, Agneta Fischer. The avatar will see you now: Support from a virtual human provides socio-emotional benefits. *Computers in Human Behavior*. 2022.

Jonathan Gratch and Nathanael Fast. The power to harm: AI assistants pave the way to unethical behavior, *Current Opinions in Psychology*. 2022

Ken Fujiwara, Rens Hoegen, Jonathan Gratch, and Norah Dunbar. Synchrony Facilitates Altruistic Decision Making for Non-Human Avatars. *Computers in Human Behavior* 128, 2022

Ewart J de Visser, Yigit Topoglu, Shawn Joshi, Frank Krueger, Elizabeth Phillips, Jonathan Gratch, Chad C. Tossell, Hasan Ayaz. Designing Man's New Best Friend: Enhancing Human-Robot Dog Interaction through Dog-Like Framing and Appearance. *Sensors*. 2022

Daniel Dukes, Kathryn Abrams, Ralph Adolphs, et al. The Rise of Affectivism. *Nature Human Behavior* 5, 2021, p 816-820

Aike Horstmann, Jonathan Gratch and Nicole C. Kramer. I just wanna blame somebody, not something! Reactions to a computer agent giving negative feedback based on the instructions of a person. *International Journal of Human-Computer Studies* 154. 2021

Johnathan Mell, Markus Beissinger and Jonathan Gratch. An expert-model and machine learning hybrid approach to predicting human-agent negotiation outcomes in varied data. *Journal on Multimodal User Interfaces* 15, 2021. Pp. 215-227

Celso de Melo, Jonathan Gratch and Frank Krueger. Heuristic thinking and altruism towards machines in people impacted by Covid-19. *iScience* 24 (3). 2021

Celso de Melo, Stacy Marsella and Jonathan Gratch. Risk of Injury in Moral Dilemmas With Autonomous Vehicles. *Frontiers in Robotics and AI* vol 7, 2021

Jonathan Gratch. The Promise and Peril of Automated Negotiators. *Negotiation Journal* 37 (1). 2021, pp. 13-34

Jonathan Gratch. The field of Affective Computing: An interdisciplinary perspective. *Transactions of the Japanese Society for Artificial Intelligence* 36(1), 2021, p. 4-12 (in Japanese)

Minha Lee, Gale Lucas and Jonathan Gratch. Comparing mind perception in strategic exchanges: Human-agent negotiation, dictator and ultimatum games. *Journal on Multimodal User Interfaces* 15 (2), 2021, pp. 201-214

Johnathan Mell, Gale Lucas, Sharon Mozgai, Jonathan Gratch. The Effects of Experience on Deception in Human-Agent Negotiation. *Journal of Artificial Intelligence Research* 68, 2020, pp. 633-660

Celso M. de Melo, Stacy Marsella, and Jonathan Gratch. Human Cooperation when Acting Through Autonomous Machines. *Proceedings of the National Academy of Science (PNAS)* 116 (9), 2019, pp. 3482-3487

Veronica Chu, Gale Lucas, Su Lei, Sharon Mozgai, Peter Khooshabeh, and Jonathan Gratch. Emotion Regulation in the Prisoner's Dilemma: Effects of Reappraisal on Behavioral Measures and Cardiovascular Measures of Challenge and Threat. *Frontiers in Human Neuroscience*, 14, 2019

Magdalena Rychlowska, Job van der Schalk, Jonathan Gratch, Eva Breitingner, and Antony Manstead. Beyond actions: Reparatory effects of regret in intergroup trust games. *Journal of Experimental Social Psychology* 82, 2019, pp. 74-84

Saba Khashe, Gale Lucas, Burcin Becerik-Gerber and Jonathan Gratch. Establishing social dialog between buildings and their users for enabling human-building interactions. *International Journal of Human-Computer Interaction* 35 (17), 2019, pp. 1545-1556

Knott, B. A., Gratch, J., Cangelosi, A., & Caverlee, J. ACM Transactions on Interactive Intelligent Systems (TiiS) Special Issue on Trust and Influence in Intelligent Human-Machine Interaction. *ACM Transactions on Interactive Intelligent Systems* 8(4), 1-3 2018

Xijing Wang, Eva G. Krumhuber and Jonathan Gratch. The Interpersonal Effects of Emotions in Money versus Candy Games. *Journal of Experimental Social Psychology* 79, 2018, pp. 315-327

Sidney D'Mello, Arvid Kappas and Jonathan Gratch. The Affective Computing Approach to Affect Measurement. *Emotion Review* 10(2). 2018, pp. 174-183

Celso de Melo, Stacy Marsella and Jonathan Gratch. Social decisions and fairness change when people's interests are represented by autonomous agents. *Journal of Autonomous Agents and Multiagent Systems* 32(1), 2018. pp. 163-187

Nicole Krämer, Gale Lucas, Lea Schmitt and Jonathan Gratch. Social Snacking with a virtual agent - On the interrelation of need to belong and effects of social responsiveness when interacting with artificial entities. *International Journal of Human-Computer Studies* v109. 2018. pp. 112-121

Gale Lucas, Albert Rizzo, Jonathan Gratch, Stefan Scherer, Giota Stratou, Jill Boberg, Louis-Philippe Morency. Reporting Mental Health Symptoms: Breaking Down Barriers to Care with Virtual Human Interviewers. *Frontiers in Robotics and AI* 4(51). 2017.

Saba Khashe, Gale Lucas, Burcin Becerik and Jonathan Gratch. Buildings with persona: Towards effective building-occupant communication. *Computers in Human Behavior*, Vol 75. 2017. pp. 607-618

Gale Lucas, Jonathan Gratch, Nikolaos Malandrakis, Evan Szablowski, Eli Fessler and Jeffrey Nichols. GOAALLL!: Using Sentiment in the World Cup to Explore Theories of Emotion. *Image and Vision Computing*. Vol 66. 2017. pp 58-65

Nicole C. Krämer, Bilge Karacora, Gale Lucas, Morteza Dehghani, Gina Rütter, and Jonathan Gratch. Closing the gender gap in STEM with friendly male instructors? On the effects of rapport behavior and gender of a virtual agent in an instructional interaction. *Computers & Education*. Vol 99. 2016. pp1-13

Celso de Melo, Stacy Marsella and Jonathan Gratch. People Don't Feel Guilty About Exploiting Machines. *ACM Transactions on Computer-Human Interaction* 23(2), 2016

Scherer, Stefan, Gale Lucas, Jonathan Gratch, Albert Rizzo, and Louis-Philippe Morency. Self-reported symptoms of depression and PTSD are associated with reduced vowel space in screening interviews. *IEEE Transactions on Affective Computing* 7(1). 2016. pp 59-73

Gale Lucas, Jonathan Gratch, Lin Cheng and Stacy Marsella. When the going gets tough: Grit Predicts costly perseverance. *Journal of Research in Personality* vol. 59. 2015. pp 15-22

Yuqiong Wang, Gale Lucas, Peter Khooshabeh, Celso De Melo and Jonathan Gratch. 'Effects of Emotional Expressions on Persuasion. *Social Influence* 10(4). 2015 pp. 236-249

Sunghyun Park, Stefan Scherer, Jonathan Gratch, Peter Carnevale, and Louis-Philippe Morency. I Can Already Guess Your Answer: Predicting Respondent Reactions during Dyadic Negotiation. *IEEE Transactions on Affective Computing* 6(2). 2015. pp 86-96

Celso de Melo, Jonathan Gratch, and Peter Carnevale. Humans vs. Computers: Impact of Emotion Expressions on People's Decision Making. *IEEE Transactions on Affective Computing*. 6(2). 2015. pp 127-136

Ahyoung Choi, Celso de Melo, Peter Khooshabeh, Woontack Woo and Jonathan Gratch. Physiological Evidence for a Dual Process Model of the Social Effects of Emotion in Computers. *International Journal of Human-Computer Studies* Vol. 74. 2015. pp. 41-53

Morteza Dehghani, Peter Khooshabeh, Angela Nazerian and Jonathan Gratch. The Subtlety of Sound: Accent as a Marker for Culture. *Journal of Language and Social Psychology* 34(3). 2015. pp 21-250

Stefan Scherer, Giota Stratou, Gale Lucas, Marwa Mahmoud, Jill Boberg, Jonathan Gratch, Albert Rizzo, and Louis-Philippe Morency. Automatic Audiovisual Behavior Descriptors for Psychological Disorder Analysis. *Image and Vision Computing Journal, Special Issue on Best of Face and Gesture 2013*. 32(10). 2014. pp. 648-658

Giota Stratou, Stefan Scherer, Jonathan Gratch and Louis-Philippe Morency. Automatic Nonverbal Behavior Indicators of Depression and PTSD: The Effect of Gender. *Journal on Multimodal User Interfaces, Special Issue: Best of ACII, 9(1)*. 2015. Pp 17-29.

Gale Lucas, Jonathan Gratch, Aisha King and Louis-Philippe Morency. It's Only a Computer: Virtual Humans Increase Willingness to Disclose. *Computers in Human Behavior*. v37. 2014. pp. 94-100

Stacy Marsella and Jonathan Gratch. Computationally modeling human behavior. *Communications of the ACM* 57(12) 2014. pp 55-67

Morteza Dehghani, Peter Carnevale and Jonathan Gratch. Interpersonal effects of expressed anger and sorrow in morally charged negotiation. *Judgment and Decision Making*. 9(2). 2014

Sinhwa Kang and Jonathan Gratch. Exploring Users' Social Responses to Computer Counseling Interviewers' Behavior. *Journal of Computers in Human Behavior*, Vol 34. 2014, pp. 120-130

Celso de Melo, Peter Carnevale, Stephen Read and Jonathan Gratch. Reading people's minds from emotion expressions in interdependent decision making. *Journal of Personality and Social Psychology*, 106(1), 2014, pp. 73-88

Peter Khooshabeh, Morteza Dehghani, Angela Nazarian, Jonathan Gratch. The Cultural Influence Model: When Accented Natural Language Spoken by Virtual Characters Matters. *Journal of Artificial Intelligence and Society*, 32(1), 2014, pp 9-16

Morteza Dehghani, Kenj Sagae, Sonia Sachdeva, Jonathan Gratch. Analyzing Political Rhetoric in Conservative and Liberal Weblogs Related to the Construction of the "Ground Zero Mosque". *Journal of Information Technology & Politics*. Vol. 11 (1), 2014 pp. 1-14.

Rainer Reisenzein, Eva Hudlicka, Mehdi Dastani, Jonathan Gratch, Koen Hindriks, Emiliano Lorini, and John-Jules Meyer. Computational Modeling of Emotion: Towards Improving the Inter- and Intradisciplinary Exchange. *IEEE Transactions on Affective Computing*, 4(3), 2013, pp. 246-266

Jana Appel, Astrid Marieke von der Pütten, Nicole C. Krämer and Jonathan Gratch. Does humanity matter? Analyzing the importance of social cues and perceived agency of a computer system for the emergence of social reactions during human-computer interaction. *Advances in Human-Computer Interaction*. 13, 2012

Choi, A., de Melo, C., Woo, W., & Gratch, J. Affective engagement to emotional facial expressions of embodied social agents in a decision-making game. *Computer Animation and Virtual Worlds*, 23, 3-4, 2012, pp. 331-342

Wenji Mao and Jonathan Gratch. Modeling Social Causality and Responsibility Judgment in Multi-Agent Interactions. *Journal of Artificial Intelligence Research*. Vol 44. 2012. pp 223-273.

Celso M. de Melo, Peter Carnevale and Jonathan Gratch. The Impact of Emotion Displays in Embodied Agents on Emergence of Cooperation with People. *PRESENCE: Teleoperators and Virtual Environments* 20(5). 2012. pp-449-465

Jonathan Gratch. The Sciences of the Artificial Emotions: Commentary on Aylett & Paiva. *Emotion Review*, 4(3). 2012. pp. 266-268



- Wenji Mao, Jonathan Gratch, Xiaochen Li. Probabilistic Plan Inference for Group Behavior Prediction. *IEEE Intelligent Systems*. 2012. pp27-36
- Peter Khooshabeh, Jonathan Gratch. Affective learner-centered design framework for virtual human educational technologies. Human Computer Interaction and Learning Technologies. Abu Dhabi, UAE: Published by *International Journal of Information Technology & Computer Science (IJITCS)*. 2012
- Sin-Hwa Kang and Jonathan Gratch. People Like Virtual Counselors That Highly-Disclose About Themselves. *Annual Review of Cybertherapy and Telemedicine*, vol 167. 2011. pp. 143-148
- Astrid M. von der Pütten, Nicole C. Krämer, Jonathan Gratch and Sin-Hwa Kang. It doesn't matter what you are! Explaining social effects of agents and avatars. *Computers in Human Behavior* 26(6). 2010
- Celso de Melo, Patrick Kenny and Jonathan Gratch. Influence of Autonomic Signals on Perception of Emotions in Embodied Agents. *Applied Artificial Intelligence* 24(6). 2010. pp. 494-509
- Sin-Hwa Kang and Jonathan Gratch. Virtual Humans Elicit Socially Anxious Interactants' Verbal Self-Disclosure. *Journal of Visualization and Computer Animation*, 21(3-4) pp 473-482. 2010.
- Celso de Melo, Patrick Kenny, and Jonathan Gratch. Real-Time Expression of Affect through Respiration. *Journal of Visualization and Computer Animation*. 21(3-4). Pp. 225-234. 2010.
- Louis-Philippe Morency, Ivan de Kok and Jonathan Gratch. A Probabilistic Multimodal Approach for Predicting Listener Backchannels. *Journal of Autonomous Agents and Multi-Agent Systems*, Springer, 20(1), 2009, 70-84
- Jonathan Gratch, Stacy Marsella and Paolo Petta, "Modeling the Antecedents and Consequences of Emotion," *Journal of Cognitive Systems Research*, 10(1), 2009, pp. 1-5.
- Stacy Marsella and Jonathan Gratch, "EMA: A process model of appraisal dynamics," *Journal of Cognitive Systems Research*, 10(1), 2009, pp. 70-90.
- Wenji Mao and Jonathan Gratch. "Modeling Social Inference in Virtual Agents. *Journal of Artificial Intelligence and Society*, 24(1), 2009, pp. 5-11.
- Core, M. G., Traum, D., Lane, H. C., Swartout, W., Marsella, S., Gratch, J., and van Lent, M., "Teaching negotiation skills through practice and reflection with virtual humans," *Simulation*, 82, 2006, pp. 685-701
- William Swartout, Jonathan Gratch, Randall Hill, Eduard Hovy, Stacy Marsella,

Jeff Rickel and David Traum, "Toward Virtual Humans," *AI Magazine*, 27(1) 2006

Jonathan Gratch and Stacy Marsella, "Evaluating a computational model of emotion," in *Journal of Autonomous Agents and Multiagent Systems*, Special Issue on the Best of AAMAS 2004, 11(1), July 2005, pp. 23-43.

Jonathan Gratch and Stacy Marsella, "Some Lessons for Emotion Psychology for the Design of Educational Agents," *Journal of Applied Artificial Intelligence* (special issue on "Educational Agents - Beyond Virtual Tutors"), vol. 19, 2005, 215-233.

Jonathan Gratch and Stacy Marsella, A Domain-independent Framework for Modeling Emotion, *Journal of Cognitive Systems Research*, Volume 5, Issue 4, 2004, Pages 269-306.

Randall W. Hill, Jr., Jonathan Gratch, Stacy Marsella, Jeff Rickel, William Swartout, and David Traum, "Virtual Humans in the Mission Rehearsal Exercise System," in *Kunstliche Intelligenz* special issue on Embodied Conversational Agents, AI number 4/03, pp. 5-10, 2003.

Jonathan Gratch and Stacy Marsella, Fight the way you train: the role and limits of emotions in training for combat, *Brown Journal of World Affairs*, vol. X, issue 1, 63-76, 2003.

Jonathan Gratch, Jeff Rickel, Elisabeth Andre, Norman Badler, Justine Cassell, and Eric Petajan, "Creating Interactive Virtual Humans: Some Assembly Required," in *IEEE Intelligent Systems* July/August 2002, pp. 54-63.

Jeff Rickel, Stacy Marsella, Jonathan Gratch, Randall Hill, David Traum and Bill Swartout, "Towards a New Generation of Virtual Humans for Interactive Experiences," in *IEEE Intelligent Systems* July/August 2002, pp. 32-38

Jonathan Gratch and Gerald DeJong, "A Decision-theoretic Approach to Adaptive Problem Solving," *Artificial Intelligence*, (88) 1-2, 1996, pp. 101-142.

Jonathan Gratch and Steve Chien, "Adaptive Problem-solving for Large-scale Scheduling Problems: A Case Study," *Journal of Artificial Intelligence Research* 4, 1996, pp. 365-396.

Steve Chien, Jonathan Gratch, and Michael Burl, "On the Efficient Allocation of Resources for Hypothesis Evaluation: A Statistical Approach," *IEEE Transaction on Pattern Analysis and Machine Learning* (PAMI), 17(4), 1995, pp. 652-665.

## **Fully Refereed Conference Publications**

Nazanin Andalibi, Luke Stark, Daniel McDuff, Rosalind Picard, Jonathan Gratch, and Noura Howell. "What should we do with Emotion AI? Towards an Agenda for the Next

30 Years." In *Companion Publication of the 2024 Conference on Computer-Supported Cooperative Work and Social Computing*, pp. 98-101. 2024.

James Hale, Lindsey Schweitzer and Jonathan Gratch. Pitfalls of Embodiment in Human-Agent Experiment Design. *24<sup>th</sup> ACM International Conference on Intelligent Virtual Agents*. Glasgow, Scotland 2024

Bin Han, Cleo Yao, Su Lei, and Jonathan Gratch. Knowledge-based Emotion Recognition using Large Language Models. *12th International Conference on Affective Computing and Intelligent Interaction*. Glasgow, Scotland 2024

Ala Tak and Jonathan Gratch. GPT-4 emulates average-human emotional cognition from a third-person perspective. *12th International Conference on Affective Computing and Intelligent Interaction*. Glasgow, Scotland 2024

Ryoya Ito, Celso de Melo, Jonathan Gratch and Kazunori Terada. Emotional expression helps regulate the appropriate level of cooperation with agents. *12th International Conference on Affective Computing and Intelligent Interaction*. Glasgow, Scotland 2024

Motoaki Sato, Takahisha Uchida, Yuichiro Yoshikawa, Celso de Melo, Jonathan Gratch, and Kazunori Terada. People negotiate better with emotional human-like virtual agents than android robots. *12th International Conference on Affective Computing and Intelligent Interaction*. Glasgow, Scotland 2024 **best paper finalist**

Xin Zhu, Zhenghui Su, Jonathan Gratch and Heather Culbertson. (2025). How Visualizing Touch Can Transform Perceptions of Intensity, Realism, and Emotion? *International Conference on Human Haptic Sensing and Touch Enabled Computer Applications*, pp. 194-207. Cham: Springer Nature Switzerland, 2024.

Hyundong Cho, Liu Shuai, Taiwei Shi, Darpan Jain, Basem Rizk, Yuyang Huang, Zixun Lu, N. Wen, Jonathan Gratch, Emilio Ferrera and Jonathan May. "Can Language Model Moderators Improve the Health of Online Discourse? NAACL 2024

Kushal Chawla, Ian Wu, Yu Rong, Gale Lucas, Jonathan Gratch. Be selfish, but wisely: Investigating the impact of agent personality in mixed-motive human-agent interactions. *EMNLP 2023*

Ala Tak and Jonathan Gratch. Is GPT a Computational Model of Emotion. *International Conference on Affective Computing and Intelligent Interaction*, Boston, MA, September 2023

Daniel Yang, Aditya Kommineni, Mohammad Alshehri, Nilamadhab Mohanty, Vedant Modi, Jonathan Gratch and Shrikanth Narayanan. Context Unlocks Emotions: Text-based Emotion Classification Dataset Auditing with Large Language Models. *International Conference on Affective Computing and Intelligent Interaction*. Boston, MA, September 2023

Su Lei and Jonathan Gratch. Sources of Facial Expression Synchrony. *International Conference on Affective Computing and Intelligent Interaction*. Boston, MA, September 2023

Jessie Hoegen, Gale Lucas, Danielle Shore, Brian Parkinson and Jonathan Gratch. How Expression and Context Determine Second-person Judgments of Emotion. *International Conference on Affective Computing and Intelligent Interaction*. Boston, MA, September 2023

James Hale, Peter Kim and Jonathan Gratch. Risk Aversion and Demographic Factors Affect Preference Elicitation and Outcomes of a Salary Negotiation. *45<sup>th</sup> Annual Conference of the Cognitive Science Society*. Sydney, Australia, August 2023

Chawla, Kushal, Weiyan Shi, Jengwen Zhang, Gale Lucas, Zhou Yu, and Jonathan Gratch. Social Influence Dialogue Systems: A Survey of Datasets and Models for Social Influence Tasks. *17th Conference of the European Chapter of the Association for Computational Linguistics (ACL)*. May 2023

James Hale and Jonathan Gratch. Preference Interdependencies in a Multi-Issue Salary Negotiation. *22<sup>nd</sup> ACM International Conference on Intelligent Virtual Agents*. Faro, Portugal. 2022

James Hale, Harsh Jalan, Nidhi Saini, Shao Ling Tan, Junhyuck Woo, and Jonathan Gratch. Negotiation Game to Introduce Non-linear Utility. *22<sup>nd</sup> ACM International Conference on Intelligent Virtual Agents*. Faro, Portugal. 2022

Eu Gene Lee, Zachary McNulty, Alex Gentle, Prerak Tusharkumar Pradhan, and Jonathan Gratch. Examining the Impact of Emotion and Agency on Negotiator Behavior. *22<sup>nd</sup> ACM International Conference on Intelligent Virtual Agents*. Faro, Portugal. 2022

Kushal Chawla, Gale Lucas, Jonathan May, Jonathan Gratch. Opponent Modeling in Negotiation Dialogues by Related Data Adaptation. *Findings of NAACL 2022*

Maria Angelika-Nikita, Celso de Melo, Kazunori Terada, Gale Lucas and Jonathan Gratch. The Impact of Partner Expressions on Felt Emotion in the Iterated Prisoner's Dilemma: An Event-level Analysis. *Ninth Annual Conference on Advances in Cognitive Systems (ACS) 2021 Best Student Paper*

Toyoda, Yuushi, Gale Lucas, and Jonathan Gratch. "Predicting Worker Accuracy from Nonverbal Behaviour: Benefits and Potential for Algorithmic Bias." *International Conference on Multimodal Interaction*. 2021.

Kazunori Terada, Mitsuki Okazoe and Jonathan Gratch. Effect of politeness strategies in dialogue on negotiation outcomes. *21<sup>st</sup> ACM International Conference on Intelligent Virtual Agents*. Kyoto, Japan 2021

Emmanuel Johnson, Jonathan Gratch, Jill Boberg, David DeVault, Peter Kim and Gale Lucas. Using Intelligent Agents to Examine Gender in Negotiations. *21<sup>st</sup> ACM International Conference on Intelligent Virtual Agents*. Kyoto, Japan 2021

Emmanuel Johnson and Jonathan Gratch. Comparing the Accuracy of Frequentist and Bayesian Models in Human-Agent Negotiation. *21<sup>st</sup> ACM International Conference on Intelligent Virtual Agents*. Kyoto, Japan 2021

Kushal Chawla, Rene Clever, Jaysa Ramirez, Gale Lucas and Jonathan Gratch. Towards Emotion-Aware Agents for Negotiation Dialogues. *9<sup>th</sup> International Conference on Affective Computing and Intelligent Interaction*, Nara, Japan 2021

Yufeng Yin, Liupei Lu, Yao Xiao, Zhi Xu, Kaijie Cai, Haonan Jiang, Jonathan Gratch and Mohammad Soleymani. Contrastive Learning for Domain Transfer in Cross-Corpus Emotion Recognition. *9<sup>th</sup> International Conference on Affective Computing and Intelligent Interaction*, Nara, Japan 2021

Motoaki Sato, Kazunori Terada and Jonathan Gratch. Visualization of social emotional appraisal process of an agent. *9<sup>th</sup> International Conference on Affective Computing and Intelligent Interaction*, Nara, Japan 2021

Reyhan Aydođan, Tim Baarslag, Katsuhide Fujita, Johnathan Mell, Jonathan Gratch, Dave De Jonge, Yasser Mohammad, Shinji Nakadai, Satoshi Morinaga, Hirotaka Osawa, Claus Aranha and Catholijn Jonker. Research Challenges for the Automated Negotiating Agents Competition (ANAC) 2019. *7<sup>th</sup> International Conference on Agreement Technologies*. Greece 2020

Johnathan Mell, Gale Lucas and Jonathan Gratch. Varied Magnitude Favor Exchange in Human-Agent Negotiation. *20<sup>th</sup> ACM International Conference on Intelligent Virtual Agents*. Glasgow, Scotland 2020

Emmanuel Johnson and Jonathan Gratch. The Impact of Implicit Information Exchange in Human-agent Negotiation. *20<sup>th</sup> ACM International Conference on Intelligent Virtual Agents*. Glasgow, Scotland 2020

Su Lei, Kalin Stefanov and Jonathan Gratch. Emotion or expressivity? An automated analysis of nonverbal perception in a social dilemma. *15th IEEE International Conference on Automatic Face and Gesture Recognition*. Buenos Aires, Argentina. 2020

Kenta Yasui, Kazunori Terada, Seiji Yamada and Jonathan Gratch. Influence of Lie Frequency and Competition in Zero-sum games. *Proceedings of the Symposium on Human-agent Interaction*. Tokyo, 2020.

Yuushi Toyoda, Gale Lucas, Jonathan Gratch. The effects of autonomy and task meaning in algorithmic management of crowdwork. *Proceedings of the 19<sup>th</sup> International*

*Conference on Autonomous Agents and Multi-Agent Systems*. Auckland, New Zealand, May 2020.

Yuyu Xu, David Jeong, Pedro Sequeira, Jonathan Gratch, Javed Aslam, Stacy Marsella. A Supervised Topic Model Approach to Learning Effective Styles within Human-Agent Negotiation. *Proceedings of the 19<sup>th</sup> International Conference on Autonomous Agents and Multi-Agent Systems*. Auckland, New Zealand, May 2020.

Mohammad Soleymani, Kalin Stefanov, Sin-Hwa Kang, Jan Ondras, and Jonathan Gratch. Multimodal Analysis and Estimation of Intimate Self-Disclosure. *21<sup>st</sup> ACM International Conference on Multimodal Interaction*, Suzhou, China, October 2019. **Best Paper**

Su Lei and Jonathan Gratch. Smile Signals Surprise in a Social Dilemma. *8<sup>th</sup> International Conference on Affective Computing & Intelligent Interaction*. Cambridge, UK 2019

Rens Hoegen, Jonathan Gratch, Brian Parkinson and Danielle Shore. Signals of Emotion Regulation in a Social Dilemma: Detection from Face and Context. *8<sup>th</sup> International Conference on Affective Computing & Intelligent Interaction*. Cambridge, UK 2019

Johnathan Mell, Jonathan Gratch, Reyhan Aydoğan, Tim Baarslag and Catholijn M. Jonker. The Likeability-Success Tradeoff: Results of the 2nd Annual Human-Agent Automated Negotiating Agents Competition. *8<sup>th</sup> International Conference on Affective Computing & Intelligent Interaction*. Cambridge, UK 2019

Kerstin S. Haring, Jessica Tobias, Justin Waligora, Elizabeth Phillips, Nathan L. Tenhundfeld, Gale Lucas, Ewart J. de Visser, Jonathan Gratch and Chad Tossell. Conflict Mediation in Human-Machine Teaming: Using a Virtual Agent to Support Mission Planning and Debriefing. *International Symposium on Robot and Human Interactive Communication (RO-MAN)*. New Delhi, India 2019

Emmanuel Johnson, Sarah Roediger, Gale Lucas and Jonathan Gratch. Assessing Common Errors Students Make When Negotiating. *19<sup>th</sup> International Conference on Intelligent Virtual Agents*. Paris, France 2019

Gale Lucas, Janina Lehr, Nicole Kraemer and Jonathan Gratch. The effectiveness of social influence tactics when used by a virtual agent. *19<sup>th</sup> International Conference on Intelligent Virtual Agents*. Paris, France 2019

Minha Lee, Gale Lucas, Johnathan Mell, Emmanuel Johnson and Jonathan Gratch. What's on Your Virtual Mind? Mind Perception in Human-Agent Negotiations. *19<sup>th</sup> International Conference on Intelligent Virtual Agents*. Paris, France 2019

Artstein, R., Boberg, J., Gainer, A., Gratch, J., Johnson, E., Leuski, A., et al. The Niki and Julie Corpus: collaborative multimodal dialogues between humans, robots, and virtual agents. *11th Language Resources Evaluation Conference*. Miyazaki, Japan 2018.

Emmanuel Johnson, Gale Lucas, Peter Kim and Jonathan Gratch. Intelligent tutoring system for negotiation skills training. *20th International Conference on Artificial Intelligence in Education*. London, UK 2018

Rens Hoegen, Job van der Schalk, Gale Lucas and Jonathan Gratch. The impact of agent facial mimicry on social behavior in a prisoner's dilemma. *18th International Conference on Intelligent Virtual Agents*. Sydney, Australia 2018

Gale Lucas, David Traum, Ron Artstein, Jonathan Gratch, Jill Boberg, Alesia Gainer, Emmanuel Johnson, Anton Leuski and Mikio Nakano. Culture, errors, and rapport-building dialogue in social agents. *18th International Conference on Intelligent Virtual Agents*. Sydney, Australia 2018

Gale Lucas, Nicole Krämer, Clara Peters, Lisa-Sophie Taesch, Johnathan Mell and Jon Gratch. Effects of perceived agency and message tone in responding to a virtual personal trainer. *18th International Conference on Intelligent Virtual Agents*. Sydney, Australia 2018

Johnathan Mell, Gale Lucas, Sharon Mozgai, Jill Boberg, Ron Artstein and Jonathan Gratch. Towards a repeated negotiating agent that treats people individually: Cooperation, social value orientation, and Machiavellianism. *18th International Conference on Intelligent Virtual Agents*. Sydney, Australia 2018

Johnathan Mell, Jonathan Gratch, Tim Baarslag, Reyhan Aydogan and Catholijn Jonker. Results of the First Annual Human-Agent League of the Automated Negotiating Agents Competition. *18th International Conference on Intelligent Virtual Agents*. Sydney, Australia 2018

Shannon Monahan, Emmanuel Johnson, Gale Lucas, James Finch, and Jonathan Gratch. Autonomous Agent that Provides Automated Feedback Improves Negotiation Skills. *19th International Conference on Artificial Intelligence in Education*. London, UK 2018

Johnathan Mell, Gale Lucas and Jonathan Gratch. Welcome to the real world: How agent strategy increases human willingness to deceive. *Proceedings of the 17th International Conference on Autonomous Agents and Multi-Agent Systems*. Stockholm, Sweden 2018

Celso de Melo, Ori Amir, Rene Weber, Peter Khooshabeh and Jonathan Gratch. Shaping Cooperation between Humans and Agents with Emotion Expressions and Framing. *Proceedings of the conference on Autonomous Agents and Multi-Agent Systems*. Stockholm, Sweden 2018

Doratha Vinkemeier, Michel Valstar and Jonathan Gratch. Predicting folds in poker using action unit detectors and decision trees. *13th IEEE International Conference on Face and Gesture Recognition*, Xi'an, China, May 2018

Helen Wauck, Gale Lucas, Ari Shapiro, Andrew Feng, Jill Boberg and Jonathan Gratch. Analyzing the Effect of Avatar Self-Similarity on Men and Women in a Search and Rescue Game. *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems*. Montreal, Canada 2018

Eli Pincus, Su Lei, Gale Lucas, Emmanuel Johnson, Michael Tsang, Jonathan Gratch, and David Traum. The Importance of Regulatory Fit & Early Success in a Human-Machine Game. *Proceedings of the APA Conference on Technology, Mind, and Society*, Washington D.C. 2018

Gale Lucas, Jill Boberg, David Traum, Ron Artstein, Jonathan Gratch, Alesia Gainer, and Emmanuel Johnson. Getting to Know Each Other: The Role of Social Dialogue in Recovery from Errors in Social Robots. *13th Annual ACM/IEEE International Conference on Human Robot Interaction*. Chicago, IL 2018

F Ringeval, B Schuller, M Valstar, J Gratch, R Cowie, and M Pantic. Summary for AVEC 2017: Real-life Depression and Affect Challenge and Workshop. *Proceedings of the 2017 ACM Conference on Multimedia*. Mountain View, CA 2017

Giota Stratou, Job Van Der Schalk, Rens Hoegen and Jonathan Gratch. Refactoring Facial Expressions: an Automatic Analysis of Natural Occurring Facial Expressions in Iterative Social Dilemma. *7<sup>th</sup> International Conference on Affective Computing and Intelligent Interaction*. San Antonio, TX. 2017

Lucas, Gale M., Jill Boberg, David Traum, Ron Artstein, Jonathan Gratch, Alesia Gainer, Emmanuel Johnson, Anton Leuski, and Mikiyo Nakano. "The Role of Social Dialogue and Errors in Robots." *5th International Conference on Human Agent Interaction*, 431-33. Bielefeld, Germany: ACM, 2017

Giota Stratou, Rens Hoegen, Gale Lucas and Jonathan Gratch. Investigating Gender Differences in Temporal Dynamics during an Iterated Social Dilemma: an Automatic Analysis Using Networks. *7<sup>th</sup> International Conference on Affective Computing and Intelligent Interaction*. San Antonio, TX. 2017

Zahra Nazari, Gale Lucas and Jonathan Gratch. Fixed-pie Lie in Action. *17<sup>th</sup> International Conference on Intelligent Virtual Agents*. Stockholm, Sweden. 2017

Johnathan Mell, Gale Lucas and Jonathan Gratch. Prestige Questions, Online Agents and Gender-driven Differences in Disclosure. *17<sup>th</sup> International Conference on Intelligent Virtual Agents*. Stockholm, Sweden. 2017

Sharon Mozgai, Gale Lucas and Jonathan Gratch. To Tell the Truth: Virtual Agents and Morning Morality. *17<sup>th</sup> International Conference on Intelligent Virtual Agents*. Stockholm, Sweden. 2017



Tim Baarslag, Michael Kaisers, Enrico Gerding, Catholijn M. Jonker and Jonathan Gratch. When will negotiation agents be able to represent us? The challenges and opportunities for autonomous negotiators. *26th International Joint Conference on Artificial Intelligence*, Melbourne, Australia. Aug 2017.

Eunkyung Kim, Jared Gilbert, Charlotte Horowitz, Jonathan Gratch, Jonas Kaplan, and Morteza Dehghani. Decoding Partner Type in Human-Agent Negotiation using functional MRI. *39th Annual Meeting of the Cognitive Science Society*. London 2017

Emmanuel Johnson, David DeVault and Jonathan Gratch. Towards an autonomous agent that provides automated feedback on student's negotiation skills. *16th International Conference on Autonomous Agents and Multiagent Systems*, Sao Paulo, Brazil 2017.

Rens Hoegen, Giota Stratou and Jonathan Gratch. Incorporating emotion perception into opponent modeling for social dilemmas. *16th International Conference on Autonomous Agents and Multiagent Systems*, Sao Paulo, Brazil 2017.

Johnathan Mell and Jonathan Gratch. Grumpy and Pinocchio: The effect of language and strategy in human-agent negotiation. *16th International Conference on Autonomous Agents and Multiagent Systems*, Sao Paulo, Brazil 2017.

Celso de Melo, Stacy Marsella and Jonathan Gratch. Increasing Fairness by Delegating Decisions to Autonomous Agents. *16th International Conference on Autonomous Agents and Multiagent Systems*, Sao Paulo, Brazil 2017.

Ron Arstein, David Traum, Jill Boberg, Alesia Gainer, Jonathan Gratch, Emmanuel Johnson, Anton Leuski, and Mikio Nakano. Listen to my body: Does making friends help influence people? *The 30th International FLAIRS Conference*. Marco Island, Florida 2017

Gale Lucas, Evan Szablowski, Jon Gratch, Andrew Feng, Tiffany Huang, Jill Boberg and Ari Shapiro. The effect of operating a virtual doppelganger in a 3d simulation. *The ACM SIGGRAPH Conference on Motion in Games*. San Francisco, CA 2016.

Jonathan Gratch, David DeVault and Gale Lucas. The benefits of virtual humans for teaching negotiation. *16th International Conference on Intelligent Virtual Agents*. Los Angeles, CA, September 2016.

Skip Rizzo, Gale Lucas, Jonathan Gratch, Giota Stratou, Louis-Philippe Morency, Russ Shilling, Arno Hartholt and Stefan Scherer. Clinical interviewing by a virtual human agent with automatic behavior analysis. *11th International Conference on Disability, Virtual Reality, and Associated Technologies*, September 2016

Gale Lucas, Giota Stratou, Shari Liebllich, and Jonathan Gratch. Trust me: Multimodal signals of trustworthiness for virtual human negotiators. *Proceedings of the 18th International Conference on Multimodal Interaction*. Tokyo, Japan. 2016

Zahra Nazari and Jonathan Gratch. Predictive Models of Malicious Behavior in Human Negotiations. *International Joint Conference on Artificial Intelligence*, New York, 2016.

Jonathan Gratch, Zahra Nazari and Emmanuel Johnson, The Misrepresentation Game: How to win at negotiation while seeming like a nice guy. *15<sup>th</sup> International Conference on Autonomous Agents and Multiagent Systems*, Singapore, 2016.

Celso de Melo, Stacy Marsella and Jonathan Gratch. "Do As I Say, Not As I Do:" Challenges in Delegating Decisions to Automated Agents. *15<sup>th</sup> International Conference on Autonomous Agents and Multiagent Systems*, Singapore, 2016.

Celso de Melo and Jonathan Gratch. People Show Envy, Not Guilt, when Making Decisions with Machines. *6<sup>th</sup> International Conference on Affective Computing and Intelligent Interaction*. Xi'an, China, 2015

Jonathan Gratch, Stacy Marsella and Lin Cheng. The Appraisal Equivalence Hypothesis: Verifying the domain-independence of a computational model of emotion dynamics. *6<sup>th</sup> International Conference on Affective Computing and Intelligent Interaction*. Xi'an, China, 2015

Giota Stratou, Rens Hoegen, Gale Lucas and Jonathan Gratch. Emotional Signaling in a Social Dilemma: an Automatic Analysis. *6<sup>th</sup> International Conference on Affective Computing and Intelligent Interaction*. Xi'an, China, 2015

Gale Lucas, Jon Gratch, Stefan Scherer, Jill Boberg and Giota Stratou. Towards an Affective Interface for Assessment of Psychological Distress. *6<sup>th</sup> International Conference on Affective Computing and Intelligent Interaction*. Xi'an, China, 2015

Johnathan Mell, Gale Lucas, Jonathan Gratch and Avi Rosenfeld. Saying YES! The Cross-cultural Complexities of Favors, Fairness, and Trust in Negotiation. *6<sup>th</sup> International Conference on Affective Computing and Intelligent Interaction*. Xi'an, China, 2015

Zahra Nazari, Gale Lucas and Jonathan Gratch. Multimodal Approach for Automatic Recognition of Machiavellianism. *6<sup>th</sup> International Conference on Affective Computing and Intelligent Interaction*. Xi'an, China, 2015

Rens Hoegen, Giota Stratou, Gale M. Lucas, and Jonathan Gratch. Comparing behavior towards humans and virtual humans in a social dilemma. *15<sup>th</sup> International Conference on Intelligent Virtual Agents*. Delft, The Netherlands. 2015.

Zahra Nazari, Gale Lucas and Jonathan Gratch. Opponent Modeling for Virtual Human Negotiators. *15<sup>th</sup> International Conference on Intelligent Virtual Agents*. Delft, The Netherlands. 2015.

Celso De Melo and Jonathan Gratch. Beyond Believability: Quantifying the Differences between Real and Virtual Humans. *15<sup>th</sup> International Conference on Intelligent Virtual Agents*. Delft, The Netherlands. 2015.

Jonathan Gratch, David DeVault, Gale Lucas, Stacy Marsella. Negotiation as a Challenge Problem for Virtual Humans. *15<sup>th</sup> International Conference on Intelligent Virtual Agents*. Delft, The Netherlands. 2015.

Paul Rosenbloom, Jonathan Gratch, Volkan Ustun. Towards Emotion in Sigma: From Appraisal to Attention. *8th Conference on Artificial General Intelligence*. Berlin, Germany 2015

Johnathan Mell, Gale Lucas and Jonathan Gratch. An Effective Conversation Tactic for Creating Value over Repeated Negotiations. *14<sup>th</sup> International Conference on Autonomous Agents and Multiagent Systems*. Istanbul, Turkey 2015

Celso de Melo, Jonathan Gratch and Peter Carnevale. The importance of cognition and affect for artificially intelligent decision makers. *28<sup>th</sup> AAAI Conference on Artificial Intelligence*. Québec City, Canada 2014

Jonathan Gratch, Ron Artstein, Gale Lucas, Giota Stratou, Stefan Scherer, Angela Nazarian, Rachel Wood, Jill Boberg, David DeVault, Stacy Marsella, David Traum, Albert "Skip" Rizzo and Louis-Philippe Morency. The Distress Analysis Interview Corpus of Human and Computer Interviews. The 9th edition of the Language Resources and Evaluation Conference (LREC), Reykjavik, Iceland. 2014

Jonathan Gratch, Gale Lucas, Aisha King, Louis-Philippe Morency. It's Only a Computer: The Impact of Human-agent Interaction in Clinical Interviews. *13th International Conference on Autonomous Agents and Multiagent Systems*. Paris, France 2014

David DeVault, Ron Artstein, Grace Benn, Teresa Dey, Alesia Egan, Ed Fast, Kallirroi Georgila, Jonathan Gratch, Arno Hartholt, Margaux Lhommet, et al. SimSensei: A Virtual Human Interviewer for Healthcare Decision Support. *13th International Conference on Autonomous Agents and Multiagent Systems*. Paris, France 2014 **[Best paper nominee]**

Celso de Melo, Peter Carnevale, Jonathan Gratch. The Effect of Agency on the Impact of Emotion Expressions on People's Decision Making. *International Conference on Affective Computing and Intelligent Interaction*. Geneva, Switzerland. 2013.

Sunghyun Park, Stefan Scherer, Jonathan Gratch, Peter Carnevale, and Louis-Philippe Morency. Mutual Behaviors during Dyadic Negotiation: Automatic Prediction of Respondent Reactions. *International Conferences on Affective Computing and Intelligent Interaction*. Geneva, Switzerland. 2013.

Giota Stratou, Stefan Scherer, Jonathan Gratch and Louis-Philippe Morency. Automatic Nonverbal Behavior Indicators of Depression and PTSD: Exploring Gender Differences. *International Conferences on Affective Computing and Intelligent Interaction*. Geneva, Switzerland. 2013.

Stefan Scherer, Giota Stratou, Jonathan Gratch, and Louis-Philippe Morency, Investigating Voice Quality as a Speaker-Independent Indicator of Depression and PTSD. *14<sup>th</sup> Annual Conference of the International Speech Communication Association (INTERSPEECH)*, Lyon, France. August 2013.

Elnaz Nouri, Sunghyun Park, Stefan Scherer, Jonathan Gratch, Peter Carnevale, Louis-Philippe Morency, and David Traum, Prediction of Negotiation Strategy and Outcome by Using Basic Verbal and Behavioral Features, *14<sup>th</sup> Annual Conference of the International Speech Communication Association (INTERSPEECH)*, Lyon, France. August 2013.

Peter Khooshabeh, Celso de Melo, B. Volkman, Jonathan Gratch, James Blascovich and Peter Carnevale. Negotiation strategies with incongruent facial expressions of emotion cause cardiovascular threat. *35<sup>th</sup> Annual Meeting of the Cognitive Science Society (CogSci)*. 2013

Yuqiong Wang, Peter Khooshabeh and Jonathan Gratch. Looking Real and Making Mistakes. *13<sup>th</sup> International Conference on Intelligent Virtual Agents*, Edinburgh, Scotland. 2013.

Arno Hartholt, David Traum, Stacy Marsella, Ari Shapiro, Giota Stratou, Anton Leuski, Louis-Philippe Morency, Jonathan Gratch. All together now, Introducing the virtual human toolkit. *13<sup>th</sup> International Conference on Intelligent Virtual Agents*, Edinburgh, Scotland. 2013. pp 368–381

Lixing Huang and Jonathan Gratch, Explaining the Variability of Human Nonverbal Behaviors in Face-to-face interaction. *13<sup>th</sup> International Conference on Intelligent Virtual Agents*, Edinburgh, Scotland. 2013.

Jonathan Gratch, Lin Cheng, Stacy Marsella and Jill Boberg. Felt emotion and social context determine the intensity of smiles in a competitive video game. *10<sup>th</sup> IEEE International Conference on Automatic Face and Gesture Recognition*. Shanghai, China, April 2013 (12% acceptance rate)

Stefan Scherer, Giota Stratou, Marwa Mahmoud, Jill Boberg, Jonathan Gratch, Albert (Skip) Rizzo, Louis-Philippe Morency. Automatic behavior descriptors for psychological disorder analysis. *10<sup>th</sup> IEEE International Conference on Automatic Face and Gesture Recognition*. Shanghai, China, April 2013 (12% acceptance rate)

**Best Paper Award**

Wenji Mao and Jonathan Gratch. Modeling Social Causality and Responsibility Judgment in Multi-Agent Interactions: Extended abstract. *23<sup>rd</sup> International Joint Conference on Artificial Intelligence*. Beijing, China, Aug, 2013

Sunghyun Park, Jonathan Gratch, and Louis-Philippe Morency. I Already Know Your Answer: Using Nonverbal Behaviors to Predict Immediate Outcomes in a Dyadic Negotiation. The 14th ACM International Conference on Multimodal Interaction (ICMI 2012), Santa Monica, California, October 22-26, 2012.

Celso de Melo, Peter Carnevale, Steven Read, and Jonathan Gratch. The Effect of Virtual Agents' Emotion Displays and Appraisals on People's Decision Making in Negotiation. *11<sup>th</sup> International Conference on Intelligent Virtual Agents*. Santa Cruz, CA. 2012

Sin-Hwa Kang, Albert Rizzo, and Jonathan Gratch. Understanding the Nonverbal Behavior of Socially Anxious People during Intimate Self-disclosure, *11<sup>th</sup> International Conference on Intelligent Virtual Agents*. Santa Cruz, USA, September 2012

Sin-Hwa Kang and Jonathan Gratch. Socially Anxious People Reveal More Personal Information with Virtual Counselors That Talk about Themselves Using Intimate Human Back Stories, *17th Annual CyberTherapy & CyberPsychology Conference*, Brussels, Belgium. 2012.

Ahyoung Choi, Celso de Melo, Woontack Woo and Jonathan Gratch. Affective engagement to emotional facial expressions of embodied social agents in a decision-making game. *International Conference on Computer Animation and Social Agents*. Singapore. 2012

Celso de Melo, Peter Carnevale, Steven Read, and Jonathan Gratch. Reverse appraisal: The importance of appraisals for the effect of emotion displays on people's decision-making in a social dilemma. *Proceedings of the 34th Annual Meeting of the Cognitive Science Society*. Sapporo, Japan. 2012

Bilge Karacora, Morteza Dehghani, Nicole Krämer-Mertens and Jonathan Gratch. The Influence of Virtual Agents' Gender and Rapport on Enhancing Math Performance. *Proceedings of the 34th Annual Meeting of the Cognitive Science Society*. Sapporo, Japan. 2012

Celso de Melo, Jonathan Gratch, Peter Carnevale, Dimitrios Antos, Stephen Read. Bayesian Model of the Social Effects of Emotion in Decision-Making in Multiagent Systems. *11<sup>th</sup> International Conference on Autonomous Agents and Multiagent Systems*. Valencia, Spain, 2012.

Sin-Hwa Kang, Jonathan Gratch, Louis-Phillippe Morency, Candy Sidner, Lixing Huang, and Ron Artstein. Towards building a Virtual Counselor: Modeling Nonverbal Behavior during Intimate Self-Disclosure. *11<sup>th</sup> International Conference on Autonomous Agents and Multiagent Systems*. Valencia, Spain, 2012.

Celso De Melo, Peter Carnevale, Dimitrios Antos and Jonathan Gratch. A Computer Model of the Interpersonal Effect of Emotion Displayed in a Social Dilemma. *4<sup>th</sup> International Conference on Affective Computing and Intelligent Interaction*. Memphis, TN. 2011.

Lixing Huang, Louis-Philippe Morency, and Jonathan Gratch. Virtual Rapport 2.0. *11<sup>th</sup> International Conference on Intelligent Virtual Agents*. Reykjavik, Iceland. 2011

Philipp Kulms, Nicole Krämer, Jonathan Gratch and Sin-Hwa Kang. It's in their eyes: A study on female and male virtual humans' gaze. *11<sup>th</sup> International Conference on Intelligent Virtual Agents*. Reykjavik, Iceland. 2011

Yvonne Jung, Arjan Kuijper, Dieter Fellner, Michael Kipp, Jan Miksatko, Jonathan Gratch, and Daniel Thalmann. Believable Virtual Characters in Human-Computer Dialogs. State-of-the-Art Report, 32nd annual conference of the European Association for Computer Graphics (Eurographics). 2011.

Celso de Melo, Jonathan Gratch, and Peter Carnevale. Reverse Appraisal: Inferring from Emotion Displays who is the Cooperator and the Competitor in a Social Dilemma. *33rd Annual Conference of the Cognitive Science Society (CogSci)*, Boston, MA, 2011

Morteza Dehghani, Jonathan Gratch, S. Sachdeva, Kenji Sagae. Analyzing Conservative and Liberal Blogs Related to the Construction of the 'Ground Zero Mosque'. *33rd Annual Conference of the Cognitive Science Society (CogSci)*, Boston, MA, 2011

Khooshabeh, P., McCall, C., Gandhe, S., Gratch, J., & Blascovich, J. J. (2011). Does it matter if a computer jokes. *Proceeding of the Annual Conference on Human Factors in Computing Systems (CHI)*. Presented at the ACM SIGCHI, Vancouver, British Columbia.

Dimitrios Antos, Barbara grosz, Jonathan Gratch and Celso de Melo. The influence of emotion expression on perceptions of trustworthiness in negotiation. *25<sup>th</sup> AAAI Conference on Artificial intelligence*, San Francisco, CA, 2011.

Celso de Melo, Peter Carnevale, and Jonathan Gratch. The Effect of Expression of Anger and Happiness in Computer Agents on Negotiations with Humans. *the Tenth International Conference on Autonomous Agents and Multiagent Systems*. Taipei, Taiwan. 2011.

Sin-Hwa Kang and Jonathan Gratch. People Like Virtual Counselors That Highly-Disclose About Themselves, Accepted for the 16th Annual CyberTherapy & CyberPsychology Conference, Qc, Canada. 2011.

Lixing Huang, Louis-Philippe Morency, Jonathan Gratch. Learning Backchannel Prediction Model from Parasocial Consensus Sampling: A Subjective Evaluation. *10<sup>th</sup> International Conference on Intelligent Virtual Agents*, Philadelphia, PA. 2010.

Astrid von der Pütten, Jonathan Gratch, Nicole Krämer. How Our Personality Shapes Our Interactions with Embodied Conversational Agents. *10<sup>th</sup> International Conference on Intelligent Virtual Agents*, Philadelphia, PA. 2010.

Celso de Melo, Peter Carnevale, Jonathan Gratch. The Influence of Emotions in Embodied Agents on Human Decision-Making. *10<sup>th</sup> International Conference on Intelligent Virtual Agents*, Philadelphia, PA. 2010.

Ning Wang, W. Lewis Johnson, Jonathan Gratch. Facial Expressions and Politeness Effect in Foreign Language Training System. In *Proceedings of Intelligent Tutoring Systems (1)*. 2010. pp.165~173

Kallirroi Georgila, Ning Wang, and Jonathan Gratch. Cross-domain speech disfluency detection. *SIGdial 2010, the 11th Annual SIGdial meeting on Discourse and Dialogue*, Tokyo, September 24-25, 2010.

Lixing Huang, Louis-Philippe Morency, Jonathan Gratch. Parasocial Consensus Sampling: Combining Multiple Perspectives to Learn Virtual Human Behavior. *9<sup>th</sup> International Conference on Autonomous Agents and Multiagent Systems*. Toronto, Canada, 2010. **Best Paper Award**

Birgit Endrass, Lixing Huang, Elisabeth André, Jonathan Gratch, A data-driven approach to model culture-specific communication management styles for virtual agents. *9<sup>th</sup> International Conference on Autonomous Agents and Multiagent Systems*. Toronto, Canada, 2010.

Ning Wang and Jonathan Gratch. Don't Just Stare at Me! *28th ACM Conference on Human Factors in Computing Systems (CHI10)*. Atlanta, GA 2010

Jonathan Gratch, Stacy Marsella, Ning Wang, Brooke Stankovic. Assessing the validity of appraisal-based models of emotion. *International Conference on Affective Computing and Intelligent Interaction*. Amsterdam, IEEE, 2009. **Best Paper**

Stacy Marsella, Jonathan Gratch, Ning Wang, Brooke Stankovic. Assessing the validity of a computational model of emotional coping. *International Conference on Affective Computing and Intelligent Interaction*. Amsterdam, IEEE. 2009.

Celso de Melo, Jonathan Gratch. Expression of Emotions using Wrinkles; Blushing; Sweating and Tears. *9<sup>th</sup> International Conference on Intelligent Virtual Agents*, Amsterdam. 2009.

Celso de Melo, Liang Zheng, Jonathan Gratch. Expression of Moral Emotions in Cooperating Agents. *9<sup>th</sup> International Conference on Intelligent Virtual Agents*, Amsterdam. 2009.

Celso de Melo, Jonathan Gratch. Creative Expression of Emotions in Virtual Humans. *Proceedings of the International Conference on the Foundations of Digital Games*, Port Canaveral, FL, 2009

Celso de Melo and Jonathan Gratch. The Effect of Color on Expression of Joy and Sadness in Virtual Humans. *International Conference on Affective Computing and Intelligent Interaction*. Amsterdam, IEEE. 2009.

Ning Wang and Jonathan Gratch. Can a Virtual Human Build Rapport and Promote Learning? *14th International Conference on Artificial Intelligence in Education*. Brighton. 2009

Sin-Hwa Kang, Jonathan Gratch, James Watt. The Effect of Affective Iconic Realism on Anonymous Interactants' Self-Disclosure. *International Conference for Human-Computer Interaction (CHI-2009)*, Boston, 2009.

Sin-Hwa Kang, James H. Watt, Jonathan Gratch, and Ning Wang. Associations between interactants' personality traits and their feelings of rapport in interactions with virtual humans. *The 59th Annual Conference of the International Communication Association*. Chicago, 2009.

L.-P. Morency, I. de Kok and J. Gratch. Context-based Recognition during Human Interactions: Automatic Feature Selection and Encoding Dictionary, *10th International Conference on Multimodal Interfaces (ICMI 2008)*, October 2008 **Best paper**

Vadim Bulitko, Steven Solomon, Jonathan Gratch and Michael van Lent. Modeling Culturally and Emotionally Affected Behavior. *Fourth Conference on Artificial Intelligence and Interactive Digital Entertainment*, Stanford, CA, October 2008

Louis-Philippe Morency, Iwan de Kok, Jonathan Gratch, Predicting Listener Backchannels: A Probabilistic Multimodal Approach, *8th International Conference on Intelligent Virtual Agents*, Tokyo, Japan, September 2008 **Best Paper**

David Traum, Jonathan Gratch, Stacy Marsella, Jina Lee, Arno Hartholt, Multi-party, Multi-issue, Multi-strategy Negotiation for Multi-modal Virtual Agents, *8th International Conference on Intelligent Virtual Agents*, Tokyo, Japan, September 2008

Patrick Kenny, Thomas Parsons, Jonathan Gratch, Albert Rizzo, Evaluation of Justina: A Virtual Patient with PTSD, *8th International Conference on Intelligent Virtual Agents*, Tokyo, Japan, September 2008

Sin-Hwa Kang, Jonathan Gratch, Ning Wang, James Watts, Agreeable People Like Agreeable Virtual Humans *8th International Conference on Intelligent Virtual Agents*, Tokyo, Japan, September 2008



Sinhwa Kang, Jonathan Gratch, Ning Wang, James Watt. Does Contingency of Agents' Nonverbal Feedback Affect Users' Social Anxiety? *7<sup>th</sup> International Conference on Autonomous Agents and Multiagent Systems*. Estoril, Portugal. May 2008.

Jonathan Gratch, Ning Wang, Jillian Gerten, Edward Fast, Robin Duffy. Creating Rapport with Virtual Agents. *7<sup>th</sup> International Conference on Intelligent Virtual Agents*, Paris, France, September 2007. **Best Paper Finalist**

Patrick Kenny, Thomas D. Parsons, Jonathan Gratch, Albert A. Rizzo. Virtual Patients for Clinical Therapist Skills Training. *7<sup>th</sup> International Conference on Intelligent Virtual Agents*, Paris, France, September 2007.

Gudný R. Jónsdóttir, Jonathan Gratch, Edward Fast, Kristinn R. Thórisson. Fluid Semantic Back-Channel Feedback in Dialogue: Challenges and Progress. *7<sup>th</sup> International Conference on Intelligent Virtual Agents*, Paris, France, September 2007.

Jina Lee, Stacy Marsella, David Traum, Jonathan Gratch and Brent Lance. The Rickel Gaze Model: A Window on the Mind of a Virtual Human. *7<sup>th</sup> International Conference on Intelligent Virtual Agents*, Paris, France, September 2007.

Sejin Oh, Jonathan Gratch, Woontack Woo. Explanatory Style for Socially Interactive Agents. *2<sup>nd</sup> International Conference on Affective Computing and Intelligent Interaction*, Lisbon, Portugal September 2007.

Paul Thagard, Peter Ditto, Jonathan Gratch, Stacy Marsella and Drew Westen. Emotional Cognition in the Real World. *Proceedings of the Twenty-Ninth Annual Meeting of the Cognitive Science Society*. Nashville, TN: Lawrence Erlbaum Associates. 2007

Patrick Kenny, Albert A. Rizzo, Thomas D. Parsons, Jonathan Gratch & William Swartout. A Virtual Human Agent for Training Novice Therapist Clinical Interviewing Skills. *International Conference on Cybertherapy*, 2007.

Kenny, P., Hartholt, A., Gratch, J., Traum, D., Marsella, S., Swartout, W., The More the Merrier: Multi-Party Negotiation with Virtual Humans, The Twenty-Second AAAI Conference on Artificial Intelligence (AAAI-07). (Intelligent Systems Demo Track), Vancouver, British Columbia, Canada. 2007

Gratch, J., Wang, N., Okhmatovskaia, A., Lamothe, F., Morales, M and Louis-Philippe Morency. Can virtual humans be more engaging than real ones? *12th International Conference on Human-Computer Interaction*, Beijing, China 2007

Jonathan Gratch, Stacy Marsella, Wenji Mao. Towards a Validated Model of "Emotional Intelligence." *Twenty-First National Conference on Artificial Intelligence (AAAI06)*. Boston, MA. 2006

Jonathan Gratch, Anna Okhmatovskaia, Francois Lamothe, Stacy Marsella,

Mathieu Morales, R. J. van der Werf and Louis-Philippe Morency. Virtual Rapport. 6th International Conference on Intelligent Virtual Agents, Marina del Rey, CA, 2006.

Stacy Marsella, Sharon Carnicke, Jonathan Gratch, Anya Okhmatovskaia and Albert Rizzo. An exploration of Delsarte's structural acting system 6th International Conference on Intelligent Virtual Agents, Marina del Rey, CA, 2006.

Gluck, K. A., Gunzelmann, G., Gratch, J., Hudlicka, E., & Ritter, F. Modeling the Impact of Cognitive Moderators on Human Cognition and Performance. In R. Sun & N. Miyake (Eds.), Proceedings of the Twenty-Eighth Annual Meeting of the Cognitive Science Society. Mahwah, NJ: Lawrence Erlbaum Associates. 2006.

Stacy Marsella and Jonathan Gratch, EMA: a computational model of appraisal dynamics, Agent Construction and Emotion, Vienna, 2006.

Wenji Mao and Jonathan Gratch, Evaluating a Computational Model of Social Causality and Responsibility, 5th International Joint Conference on Autonomous Agents and Multiagent Systems, Hakodate, Japan, 2006

Martijn Maatman, Jonathan Gratch and Stacy Marsella, Natural Behavior of a Listening Agent, 5th International Working Conference on Intelligent Virtual Agents, Kos, Greece, 2005.

Wenji Mao and Jonathan Gratch, Social Causality and Responsibility: Modeling and Evaluation, 5th International Working Conference on Intelligent Virtual Agents, Kos, Greece, 2005.

David Traum, William Swartout, Stacy Marsella and Jonathan Gratch, Fight, Flight, or Negotiate: Believable Strategies for Conversing under Crisis, 5th International Working Conference on Intelligent Virtual Agents, Kos, Greece, 2005.

Bilyana Martinovski, Wenji Mao, Jonathan Gratch and Stacy Marsella, "Mitigation Theory: An Integrated Approach," in Proceedings of the 27th Annual Conference of the Cognitive Science Society, Turin, Italy, 2005

Jonathan Gratch and Stacy Marsella, "Evaluating the modeling and use of emotion in virtual humans," in Proceedings of the Third International Joint Conference on Autonomous Agents and Multiagent Systems, New York, New York, 2004.

Wenji Mao and Jonathan Gratch, "Social Judgment in Multiagent Interactions," in Proceedings of the Third International Joint Conference on Autonomous Agents and Multiagent Systems, New York, New York, 2004.

Hyeok-Soo Kim and Jonathan Gratch, "A Planner-Independent Collaborative Planning Assistant," in Proceedings of the Third International Joint Conference on Autonomous Agents and Multiagent Systems, New York, New York, 2004.

David Traum, Jeff Rickel, Jonathan Gratch, and Stacy Marsella, "Negotiation over tasks in hybrid human-agent teams for simulation-based training," in Proceedings of the Second International Joint Conference on Autonomous Agents and Multiagent Systems, Melbourne, Australia, 2003.

**Best paper**

Stacy Marsella and Jonathan Gratch, "Modeling Coping Behaviors in Virtual Humans: Don't worry, be happy," in Proceedings of the Second International Joint Conference on Autonomous Agents and Multiagent Systems, Melbourne, Australia, 2003.

Wenji Mao and Jonathan Gratch, "The Social Credit Assignment Problem" in 4th International Working Conference on Intelligent Virtual Agents, Kloster Irsee, Germany, 2003

Jonathan Gratch and Wenji Mao, "Automating After Action Review: Attributing Blame or Credit in Team Training," in 12th Conference on Behavior Representation in Modeling and Simulation, Scottsdale, AZ, May 2003

Stacy Marsella and Jonathan Gratch, "A step toward irrationality: using emotion to change belief," in Proceedings of the First International Joint Conference on Autonomous Agents and Multiagent Systems, Bologna, Italy, 2002.

Randall Hill, Youngjun Kim and Jonathan Gratch, "Anticipating where to look: predicting the movements of mobile agents in complex terrain," in Proceedings of the First International Joint Conference on Autonomous Agents and Multiagent Systems, Bologna, Italy, 2002.

Jonathan Gratch and Stacy Marsella, "Tears and Fears: Modeling emotions and emotional behaviors in synthetic agents," in Proceedings of the 5th International Conference on Autonomous Agents, Montreal, Canada, June 2001

Stacy Marsella and Jonathan Gratch, "Modeling the Interplay of Emotions and Plans in Multi-Agent Simulations," in Proceedings of the 23rd Annual Conference of the Cognitive Science Society, Edinburgh, Scotland, 2001

Swartout, W., Hill, R., Gratch, J., Johnson, W.L., Kyriakakis, C., Labore, K., Lindheim, R., Marsella, S., Miraglia, D., Moore, B., Morie, J., Rickel, J., Thiebaut, M., Tuch, L., Whitney, R. Toward the Holodeck: Integrating Graphics, Sound, Character and Story, in Proceedings of 5th International Conference on Autonomous Agents, Montreal, Canada, June 2001

**Best paper**

Jonathan Gratch, "Emile: Marshalling Passions in Training and Education," in Proceedings of the 4th International Conference on Autonomous Agents, Barcelona, Spain, June 2000

R. Hill, J. Gratch, P. Rosenbloom (2000). Flexible Group Behavior: Virtual Commanders for Synthetic Battlespaces. Proceedings of the Fourth International Conference on Autonomous Agents, Barcelona, Spain, June 2000.

Randall Hill, Johnny Chen, Jonathan Gratch, Paul Rosenbloom, Milind Tambe, "Intelligent Agents for the Synthetic Battlefield," in "Joint proceedings of the Fourteenth National Conference on Artificial Intelligence and the Ninth Conference on Innovative Applications of Artificial Intelligence (AAAI/IAAI97), Providence, RI, 1997, pp. 1006-1012.

Jonathan Gratch, "Sequential Inductive Learning," "Proceedings of Thirteenth National Conference on Artificial Intelligence (AAAI96), 1996, pp. 778-786

Jonathan Gratch, Steve Chien, and Gerald DeJong, "Improving Learning Performance Through Rational Resource Allocation," "Proceedings of the Twelfth National Conference on Artificial Intelligence (AAAI94), Seattle, WA, 1994, pp. 576-581.

Jonathan Gratch, Steve Chien, and Gerald DeJong, "Learning Search Control Knowledge for the Deep Space Network Scheduling Problem," Proceedings of the Tenth International Machine Learning Conference (ML93), Amherst, MA, 1993, pp. 135-142.

Jonathan Gratch and Gerald DeJong, "COMPOSER: A Probabilistic Solution to the Utility Problem in Speed-up Learning," Proceedings of the Tenth National Conference on Artificial Intelligence (AAAI92), San Jose, CA, 1992, pp. 235-240.

Jonathan Gratch and Gerald DeJong, "An Analysis of Learning to Plan as a Search Problem," "Proceedings of the Ninth International Machine Learning Conference (ML92), Aberdeen, Scotland, 1992, pp. 178-188.

Jonathan Gratch and Gerald DeJong, "A Hybrid Approach to Guaranteed Effective Control Strategies," "Proceedings of the Eighth International Workshop on Machine Learning (ML91), Evanston, IL, 1991, pp. 509-513.

## **Other Publications**

James Hale, FelLindsey Schweitzer, and Jonathan Gratch. "Integration of LLMs with Virtual Character Embodiment." *Proceedings of the ACM International Conference on Intelligent Virtual Agents*. 2024.

Eleanor Lin, James Hale and Jonathan Gratch. Toward a Better Understanding of the Emotional Dynamics of Negotiation with Large Language Models. 8<sup>th</sup> National Workshop for REU Research in Networking and Systems. Washington, DC, December 2023

James Hale, Peter Kim and Jonathan Gratch. Fairness in Elicitation, Mediation, & Negotiation. International Workshop on Citizen-centric multiagent systems. London, UK May 2023.

Lindsey Schweitzer, James Hale, Edward Fast, Johnathan Mell, and Jonathan Gratch. Animated avatars in a negotiation game (demonstration). In International Conference on Intelligent Virtual Agents, Faro, Portugal, September 2022.

Birgit Lugrin, Catherine Pelachaud, Elisabeth André, Ruth Aylett, Timothy Bickmore, Cynthia Breazeal, Joost Broekens, Kerstin Dautenhahn, Jonathan Gratch, Stefan Kopp, Jacqueline Nadel, Ana Paiva, Agnieszka Wykowska. Challenge discussion on socially interactive agents: Considerations on social interaction, computational architectures, evaluation, and ethics. The Handbook on Socially Interactive Agents: 20 years of Research on Embodied Conversational Agents, Intelligent Virtual Agents, and Social Robotics Volume 2: Interactivity, Platforms, Application (Eds. Lugrin, Pelachaud, and Traum). ACM Press 2022

Tim Baarslag, Michael Kaisers, Erica H. Gerding, Catholijn M. Jonker and Jonathan Gratch. Self-sufficient, Self-directed, and Interdependent Negotiating Systems: A roadmap Towards Autonomous Negotiation Agents. In: Karagözoğlu, E., Hyndman, K.B. (eds) *Bargaining*. Palgrave Macmillan, Cham. 2022 pp. 387-406.

Arthur Jago, Roshni Ravendhran, Nathanael Fast and Jonathan Gratch. When algorithms replace human bosses: algorithmic management diminishes workers' anticipated status. *Academy of Management*, August 2022

Emmanuel Johnson and Jonathan Gratch. The impact of Personalized Feedback on Negotiation Training. Design Recommendations for Intelligent Tutoring Systems, vol. 9. 2022

Bjorn Schuller, Rosalind Picard, Elisabeth Andre, Jonathan Gratch and Jianhua Tao. Intelligent Signal Processing for Affective Computing. Special issue of IEEE Signal Processing Magazine, November 2021

Jonathan Gratch and Gale Lucas. Emotionally-resonant media: Advances in sensing, understanding and influencing human emotion through interactive media. *Handbook of Emotions and Media*. London: Routledge (in press)

Jonathan Gratch and Gale Lucas. Rapport between humans and machines. *Handbook on Socially Interactive Agents*. B. Lugrin, C. Pelachaud and D. Traum (Eds.). ACM Press, 2021. pp. 433-462

Celso de Melo and Jonathan Gratch. Inferring Intentions from Emotion Expressions in Social Decision Making. *The social nature of emotion expression: What emotions can tell us about the world* (eds. Ursula Hess and Shlomo Hareli). Springer International Publishing. 2019

Lucas, G. M., Rizzo, A., Gratch, J., Scherer, S., Stratou, G., Boberg, J., & Morency, L. P. (2017). Reporting Mental Health Symptoms: Breaking Down Barriers to Care with Virtual Human Interviewers. In: Slater, M., Sanchez-Vives, M. V., Rizzo, A., & Bergamasco, M. (eds) *The Impact of Virtual and Augmented Reality on Individuals and Society*. Frontiers Media SA. pp 256-264

Baarslag, T., Kaisers, M., Gerding, E. H., Jonker, C. M., & Gratch, J. (2017). Computers That Negotiate on Our Behalf: Major Challenges for Self-sufficient, Self-directed, and Interdependent Negotiating Agents. *Autonomous Agents and Multiagent Systems: AAMAS 2017 Workshops, Visionary Papers*, São Paulo, Brazil.

Ringeval, Fabien, Björn Schuller, Michel Valstar, Jonathan Gratch, Roddy Cowie, Stefan Scherer, Sharon Mozgai, et al. "Avec 2017: Real-Life Depression, and Affect Recognition Workshop and Challenge." *Proceedings of the 7th Annual Workshop on Audio/Visual Emotion Challenge*, 2017.

Baarslag, T., Kaisers, M., Gerding, E. H., Jonker, C., & Gratch, J. (2017). When will negotiation agents be able to represent us? The challenges and opportunities for autonomous negotiators. 19th International Workshop on Agent-Mediated Electronic Commerce and Trading Agents Design and Analysis, Sao Paolo, Brazil.

Ron Arstein, David Traum, Jill Boberg, Alesia Gainer, Jonathan Gratch, Emmanuel Johnson, Anton Leuski and Mikio Nakano. Niki and Julie: A robot and virtual human for studying multimodal social interaction. *Proceedings of the 18th International Conference on Multimodal Interaction*. Tokyo, Japan. 2016

Michel Valstar, Jonathan Gratch, Björn Schuller, Fabien Ringeval, Denis Lalanne, Mercees Torres Torres, Stefan Scherer, Giota Stratou, Roddy Cowie, and Maja Pantic. AVEC 2016: Depression, Mood, and Emotion Recognition Workshop and Challenge. *6th International Workshop on Audio/Visual Emotion Challenge*, Amsterdam, The Netherlands. 2016

Jonathan Gratch, Peter Friedland and Benjamin Knott. Recommendations for Research on Trust in Autonomy. *5th International Workshop on Human-Agent Interaction Design and Models*. NYC. 2016.

Thanh Nguyen and Jonathan Gratch, Misrepresentation Negotiation Games, ICT-TR-01.2016, University of Southern California Institute for Creative Technologies, Playa Vista, CA, 2016.

Johnathan Mell and Jonathan Gratch. IAGO: Interactive arbitration guide online (demo paper). *15th International Conference on Autonomous Agents and Multiagent Systems*, Singapore, 2016.

Albert Rizzo, Gale Lucas, Jonathan Gratch, Giota Stratou, Louis-Philippe Morency, Kenneth Chavez, Russ Shilling, Stefan Scherer. Automatic Behavior Analysis During a Clinical Interview with a Virtual Human., In *Medicine Meets Virtual Reality 22: NextMed/MMVR22*, volume 220, 2016

Stefan Scherer, Louis-Philippe Morency, Jonathan Gratch, John Pestician. Reduced vowel space is a robust indicator of psychological distress: A cross-corpus analysis. *Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, IEEE, 2015

Nicole Krämer, Bilge Karacora, Gale Lucas, Morteza Dehghani, Gina Rütter and Jonathan Gratch. Closing the gender gap in STEM with male instructors? On the effects of rapport behavior and gender of a virtual agent in an instructional interaction. *The 66th Annual Conference of the International Communication Association*. Fukuoka, Japan. 2016 **BEST POSTER AWARD**

Nicole Krämer, Gale Lucas, Lea Schmitt and Jonathan Gratch. Social Snacking with a virtual agent – On the interrelation of need to belong and social effects of rapport when interacting with artificial entities. *The 66th Annual Conference of the International Communication Association*. Fukuoka, Japan. 2016

Jie Xu · Enid Montague · Jonathan Gratch · Peter Hancock · Myounghoon Jeon · Mark S. Pfaff · Jonathan Gratch. Advances of Research in Affective Processes in Communication and Collaboration. *Annual Meeting of the Human Factors and Ergonomics Society*, Los Angeles, 2015

Jonathan Gratch, Gale Lucas, Nikolaos Malandrakis, Evan Szabrowski, Eli Fessler and Jeffrey Nichols and. GOAALLL!: Using sentiment in the World Cup to explore theories of emotion. *1st International Workshop on Automatic Sentiment Analysis in the Wild at ACII2015*. Xi'an China, 2015 **BEST PAPER**

Giota Stratou, Louis-Philippe Morency, David Devault, Arno Hartholt, Edward Fast, Margaux Lhommet, Gale Lucas, Fabrizio Morbini, Kallirroï Georgila, Stefan Scherer, Jonathan Gratch, Stacy Marsella, David Traum and Albert Rizzo. Demo: A Demonstration of the Perception System in SimSensei, a Virtual Human Application for Healthcare Interviews. *6<sup>th</sup> International Conference on Affective Computing and Intelligent Interaction*. Xi'an, China, 2015

Pete Khooshabeh, Stefan Scherer, B. Ouimette, W.S. Ryan, Brent J Lance and Jonathan Gratch. Combining advanced computational behavior analysis, cardiovascular psychophysiology, and virtual humans to infer affective psychological states, *Science Supplement on Advances in Computational Psychophysiology*, Vol. 350 (6256), 2015 pp. 114

Albert Rizzo, Russ Shilling, Eric Forbell, Stefan Scherer, Jonathan Gratch & Louis-Philippe Morency. Autonomous Virtual Human Agents for Healthcare Information

Support and Clinical Interviewing. *Artificial Intelligence in Behavioral and Mental Health Care*. David D. Luxton (Ed.). Elsevier/Academic Press. 2015

Louis-Philippe Morency, Giota Stratou, David DeVault, Arno Hartholt, Margaux Lhommet, Gale Lucas, Fabrizio Morbini, Kallirroi Georgila, Stefan Scherer, Jonathan Gratch, Stacy Marsella, David Traum, Albert "Skip" Rizzo. SimSensei Demonstration: A Perceptive Virtual Human Interviewer for Healthcare Applications. *Proceedings of the 29th AAAI Conference on Artificial Intelligence (AAAI)*, 2015.

Jonathan Gratch, Gale Lucas, N. Malandrakis, Evan Szablowski, Eli Fessler and Jeffery Nichols. To tweet or not to tweet: The question of emotion and excitement about sporting events. Paper accepted to the meeting of the *International Society for Research on Emotions*, Geneva, Switzerland. 2015

Jonathan Gratch, Susan Hill, Louise-Philippe Morency, David Pynadath, and David Traum. Exploring the implications of virtual human research for human-robot teams. *17<sup>th</sup> International Conference on Human-Computer Interaction*. Los Angeles, CA. 2015

David DeVault, Johnathan Mell and Jonathan Gratch. Toward Natural Turn-Taking in a Virtual Human Negotiation Agent. *AAAI Spring Symposium on Turn-taking and Coordination in Human-Machine Interaction*. 2015, AAAI Press: Stanford, CA.

Jonathan Gratch. Virtual humans for interpersonal process and skills training. *AI Matters* 1(2). 2014. pp 24-25

Committee on the Context of Military Environments: Social and Organizational Factors (Reid Hastie and Catherine H. Tinsley, Editors). *The Context of Military Environments*. National Academies Press. 2014

Celso de Melo, Peter Carnevale and Jonathan Gratch. Using Virtual Confederates to Research Intergroup Bias and Conflict. Paper to be presented at the 74<sup>th</sup> Annual Meeting of the Academy of Management. Philadelphia, PA, 2014 (best paper)

Celso de Melo, Peter Carnevale and Jonathan Gratch. Social categorization and cooperation between humans and computers. *36<sup>th</sup> Annual Meeting of the Cognitive Science Society*. Québec City, Canada 2014

Eunkyung Kim, Morteza Dehghani, Yoo Kyoung Kim, Peter Carnevale, Jonathan Gratch. Effects of Moral Concerns on Negotiations. *36<sup>th</sup> Annual Meeting of the Cognitive Science Society*. Québec City, Canada 2014

Stacy C. Marsella & Jonathan Gratch (2014). Requirements for a Process Model of Emotion from Social Functional Perspective. In: *Social emotions in nature and artifact: Emotions in human and human-computer interaction*, Ed. by Jonathan Gratch & Stacy Marsella, 2014



Celso de Melo, Peter Carnevale and Jonathan Gratch. Bridging the gap between human and non-human decision makers. *Annual meeting of the international association for conflict management*. Leiden, the Netherlands 2014.

Yu Zhou, Stefan Scherer, David Devault, Jonathan Gratch, Giota Stratou, Louis-Philippe Morency, and Justine Cassell. Multimodal Prediction of Psychological Disorder: Learning Nonverbal Commonality in Adjacency Pairs. *17<sup>th</sup> Workshop on the Semantics and Pragmatics of Dialogue (SEMDIAL)*. Amsterdam, December 2013.

Celso de Melo, Peter Carnevale and Jonathan Gratch. Reading people's minds from emotion expressions in social decision making. *Annual Meeting of the International Association for Conflict Management (IACM)*. 2013

Celso de Melo, Peter Carnevale and Jonathan Gratch. Agent or avatar? Using virtual confederates in conflict management research. *Annual Meeting of the Academy of Management (AOM)*. 2013

Celso de Melo, Ana Paiva, and Jonathan Gratch. Emotion in games. *The Handbook of Digital Games*. M. Angelides, H. Agius (Eds.). Wiley-IEEE Press. New Jersey 2013

Celso de Melo, Peter Carnevale and Jonathan Gratch. People's biased decisions to trust and cooperate with agents that express emotions. *Trust Workshop at the Autonomous Agents and Multiagent Systems Conference (AAMAS)*. 2013.

Jonathan Gratch, , Louis-Philippe Morency, Stefan Scherer, Giota Stratou, Jill Boberg, Sebastian Koenig, Todd Adamson, Albert Rizzo. User-State Sensing for Virtual Health Agents and TeleHealth Applications. *20<sup>th</sup> International Conference on Medicine Meets Virtual Reality*. San Diego, CA. Feb. 2013

John Hart, Jonathan Gratch and Stacy Marsella. How virtual reality training can win friends and influence people. *Fundamental Issues in Defense*. C. Best, G. Galanis, J. Kerry, and R. Sottolare (ed.). Ashgate Press. 2013

Morteza Dehghani, Jonathan Gratch, Peter Carnevale. Interpersonal effects of emotions in morally-charged negotiations. *Proceedings of the 34th Annual Meeting of the Cognitive Science Society*. Sapporo, Japan. 2012

Morteza Dehghani, Peter Khooshabeh, Lixing Huang, Angela Nazarian, Jonathan Gratch. Using Accent to Induce Cultural Frame-Switching. *Proceedings of the 34th Annual Meeting of the Cognitive Science Society*. Sapporo, Japan. 2012

William Kennedy, Frank Ritter, Christian Lebiere, Jonathan Gratch and Richard Young. ICCM Symposium on Cognitive Modeling of Processes “Beyond Rational.” International Conference on Cognitive Modeling. Berlin, Germany. 2012

Sunghyun Park, Jonathan Gratch, and Louis-Philippe Morency. I already know your answer: using nonverbal behaviors to predict immediate outcomes in a dyadic negotiation. *14th ACM international conference on Multimodal interaction*. Santa Monica, CA. 2012

Dirk Heylen, Elisabetta Bevacqua, Catherine Pelachaud, Isabella Poggi, Jonathan Gratch and Marc Schröder. Generating Listening Behaviour. *Handbook of Emotion-Oriented Technologies*. Roddy Cowie, Catherine Pelachaud and Paolo Petta (eds.). Springer. 2010.

Morteza Dehghani, Peter Khooshabeh, Lixing Huang, Lia Oganseyan, Jonathan Gratch. Cultural Frame-Switching using Accented Spoken Language by a Virtual Character. In *Proceedings of Workshop on Culturally Motivated Virtual Characters*, Reykjavik, Iceland. 2011.

Peter Carnevale, Yoo Kyoung Kim, Celso de Melo, Morteza Dehghani, and Jonathan Gratch. These Are Ours: The Effects of Ownership and Groups on Property Negotiation. *International Association of Conflict Management*. Istanbul, Turkey. 2011.

Morteza Dehghani, Jonathan Gratch, S. Sachdeva and Kenji Sagae. Analyzing the debate over the Construction of the Ground Zero Mosque. Presented at the 2011 meeting of Society of Judge and Decision Making (SJDM). Seattle, WA. 2011.

Peter Khooshabeh, Sudeep Gandhe, Cade McCall, Jonathan Gratch, Jim J. Blascovich, and David Traum. The effects of virtual agent humor and gaze behavior on human-virtual agent proxemics. *11<sup>th</sup> International Conference on Intelligent Virtual Agents*. Reykjavik, Iceland. 2011

Sin-Hwa Kang, Candy Sidner, Jonathan Gratch, Ron Artstein, Lixing Hwang, and Louis-Philippe Morency. Modeling Nonverbal Behavior of a Virtual Counselor during Intimate Self-Disclosure. *11<sup>th</sup> International Conference on Intelligent Virtual Agents*. Reykjavik, Iceland. 2011

Lixing Huang, Louis-Philippe Morency and Jonathan Gratch. A Multimodal End-of-Turn Prediction Model: Learning from Parasocial Consensus Sampling. *the Tenth International Conference on Autonomous Agents and Multiagent Systems*. Taipei, Taiwan. 2011.

Sin-Hwa Kang, Candy Sidner, Jonathan Gratch, Louis-Philippe Morency. Turn-taking patterns in self-disclosure interactions with Virtual Agents. *10<sup>th</sup> International Conference on Intelligent Virtual Agents*, Philadelphia, PA. 2010.

Stacy Marsella, Jonathan Gratch, Paolo Petta. Computational Models of Emotion. A blueprint for affective computing sourcebook and manual. Scherer, K.R., Bänziger, T., & Roesch, E. (Eds.). Oxford: Oxford University Press, 2010.

Jonathan Gratch. Emotionally-Resonant Media: advances in sensing, understanding and influencing human emotion through interactive media. *Handbook of Emotions and the Mass Media*, Döveling, von Scheve, & Konijn (Eds.), ROUTLEDGE,

Taylor & Francis Group, London, UK, 2010.

Tibor Bosse, Jonathan Gratch, Johan F. Hoorn, Matthijs Pontier, and Ghazanfar F. Siddiqui. Comparing Three Computational Models of Affect, *8th International Conference on Practical Applications of Agents and Multi-Agent Systems*, Salamanca, Spain 2010

Astrid von der Pütten, Nicole Krämer, Jonathan Gratch. Who's there? Can a Virtual Agent Really Elicit Social Presence. *The 12th Annual International Workshop on Presence*. Los Angeles, CA 2009.

Astrid von der Pütten, Jonathan Gratch, Sinhwa Kang, Nicole Krämer (2009): It doesn't matter what you are! Comparing interacting with an autonomous virtual person with interacting with a virtually represented human. Proceedings of the 6th Conference of the Media Psychology Division of the German Psychological Society. 09-11. September 2009, Duisburg, Germany. Publisher: Pabst Science Publishers

Arno Hartholt, Jonathan Gratch, Anton Leuski, Louis-Philippe Morency, Stacy Marsella, Matt Liewer, Marcus Thiebaut, Prathibha Doraiswamy, Andreas Tsiartas, Lori Weiss. At the Virtual Frontier: Introducing Gunslinger; a Multi-Character; Mixed-Reality; Story-Driven Experience. *9th International Conference on Intelligent Virtual Agents*, Amsterdam. 2009.

Ning Wang and Jonathan Gratch. Rapport and Facial Expression. International Conference on Affective Computing and Intelligent Interaction. Amsterdam, IEEE. 2009

Sin-Hwa Kang, Jonathan Gratch. Interactants Most Intimate Self-Disclosure in Interactions with Virtual Humans. *9th International Conference on Intelligent Virtual Agents*, Amsterdam. 2009.

Patrick Kenny, Thomas Parsons, Jonathan Gratch, Albert Rizzo. Evaluation of Novice and Expert Interpersonal Interaction Skills with a Virtual Patient. *9th International Conference on Intelligent Virtual Agents*, Amsterdam. 2009.

David Traum, William Swartout, Jonathan Gratch, Stacy Marsella, "A Virtual Human Dialogue Model for Non-team Interaction", in *Recent Trends in Discourse and Dialogue* Springer, Laila Dybkjaer and Wolfgang Minker, Eds, pp. 45—67, 2008.

Vadim Bulitko, Steven Solomon, Jonathan Gratch, Michael van Lent. Modeling Culturally and Emotionally Affected Behavior. The 10th International Conference on the Simulation of Adaptive Behavior (SAB); Workshop on the role of emotion in adaptive behavior and cognitive robotics. Alberta, Canada. July 2008.

Nicole Novielli, Peter Carnevale and Jonathan Gratch. Cooperation Attitude In Negotiation Dialogs. Proceedings of LREC2008 Workshop on Corpora for Research on Emotion and Affect, Marrakech, Morocco 2008

Celso de Melo, Jonathan Gratch, Evolving Expression of Emotions in Virtual Humans using Lights and Pixels, *8<sup>th</sup> International Conference on Intelligent Virtual Agents*, Tokyo, Japan, September 2008 (poster publication)

Committee on Opportunities in Basic Research in the Behavioral and Social Sciences for the U.S. Military (James J. Blascovich and Christine R. Hartel, Editors). *Human Behavior in Military Contexts*. National Academies Press. 2008

Jonathan Gratch, "True emotion vs. Social Intentions in Nonverbal Communication: Towards a Synthesis for Embodied Conversational Agents," *Modeling Communication with Robots and Virtual Humans*, Wachmuth and Knoblich (eds.), LNAI 4930, Berlin, Springer, 2008.

Patrick Kenny, Arno Hartholt, Jonathan Gratch, William Swartout, David Traum, Stacy Marsella, Diane Piepol. Building Interactive Virtual Humans for Training Environments. *Interservice/Industry Training, Simulation, and Education Conference (I/ITSEC) 2007*  
**Best Paper**

Wenji Mao and Jonathan Gratch, "Modeling Social Inference in Virtual Agents," Workshop on Social Intelligence Design, Trento Italy, 2007.

Jonathan Gratch and Stacy Marsella, "The Architectural Role of Emotion in Cognitive Systems," in *Integrated Models of Cognitive Systems*, Wayne Gray (ed.), Oxford University Press, 2007

Jonathan Gratch, Anna Okhmatovskaia and Susan Duncan, Virtual Humans for the Study of Rapport in Cross-cultural Settings, in the 25th Annual Army Science Conference, Orlando, FL, 2006

Jonathan Gratch, Stacy Marsella, Arjan Egges, Anton Eliens, Katherine Isbister, Ana Paiva, Thomas Rist, Paul ten Hagen, "Design criteria, techniques and case studies for creating and evaluating interactive experiences for virtual humans, in *Evaluating Embodied Conversational Agents*, Zsofi Ruttkay, Elizabeth André, W. L. Johnson and Catherine Pelachaud (Eds.), Dagstuhl Seminar Proceedings 04121, 2006

Jonathan Gratch, Michael Young, Ruth Aylett, Daniel Ballin, Patrick Olivier, (eds.), *Proceedings of the 6th International Conference on Intelligent Virtual Agents*, in *Lecture Notes in Computer Science*, Volume 4113, Springer-Verlag GmbH, 2006

Themis Panayiotopoulos, Jonathan Gratch, Ruth Aylett, Daniel Ballin, Patrick Olivier, Thomas Rist (eds.), *Proceedings of the 5th International Working Conference on Intelligent Virtual Agents*, in *Lecture Notes in Computer Science*, Volume 3661, Springer-Verlag GmbH, 2006

Jonathan Gratch, Wenji Mao, and Stacy Marsella, "Modeling Social Attributions

and Social Emotions in Soar," in Cognitive Modeling and Multi-Agent Interactions, Ron Sun (ed.), Cambridge University Press, 2006

Traum, D., Swartout, W., Gratch, J., Marsella, S., Kenny, P., Hovy, E., Narayanan, S., Fast, E., Martinovski, B., Baghat, R., Robinson, S., Marshall, A., Wang, D., Gandhe, S., Leuski, A. Dealing With Doctors: A Virtual Human for Non-team Interaction. Special Interest Group for Digital Linguistics (Sigdial), Lisbon, Portugal; September 2005.

W. Swartout, J. Gratch, R. Hill, E. Hovy, R. Lindheim, S. Marsella, J. Rickel, D. Traum, "Simulation meets Hollywood: Integrating Graphics, Sound, Story and Character for Immersive Simulation," Multimodal Intelligent Information Presentation, Eds. Oliviero Stock and Massimo Zancanaro, 2005.

Traum, D., Swartout, W., Gratch, J., Marsella, S. Virtual Humans for Non-team Interaction Training. Autonomous Agents and Multi-Agent Systems (AAMAS) Workshop on Creating Bonds with Humanoids (Utrecht, The Netherlands; July 2005).

Albert Rizzo, Jarrell Pair, Peter J. McNerney, Ernie Eastlund, Brian Manson, Jonathan Gratch, Randall Hill, Michael Roy and William Swartout, "Design and Development of a VR Therapy Application for Iraq War Veterans with PTSD." Proceedings of The 13th Annual Medicine Meets Virtual Reality Conference. Long Beach, CA. Jan. 2005

Jonathan Gratch and Stacy Marsella, "Towards a validated model of the influence of emotion on human performance," in the 24th Annual Army Science Conference, Orlando, FL, 2004

Albert Rizzo, Jarrell Pair, Peter J. McNerney, Ernie Eastlund, Brian Manson, Jonathan Gratch, Randall Hill, Michael Roy and William Swartout, "From Training to Toy to Treatment: Design and Development of a Post Traumatic Stress Disorder Virtual Reality Therapy Application for Iraq War Veterans." Proceedings of the 3rd Annual International Workshop on Virtual Rehabilitation. 2004, pp. 35-42.

Albert Rizzo, Jarrell Pair, Peter J. McNeary, Ernie Eastlund, Brian Manson, Jonathan Gratch, Randy Hill, Michael Roy and Bill Swartout, "The Full Spectrum PTSD Immersive VR Therapy Application for Iraq War Veterans: From Training to Toy to Treatment", in the 24th Annual Army Science Conference, Orlando, FL, 2004.

Wenji Mao and Jonathan Gratch, "A Utility-based Approach to Intention Recognition," in AAMAS Workshop on Agent Tracking: Modeling Other Agents from Observations (MOO2004), New York, 2004.

Swartout, W., Gratch, J., Hill, R., Hovy, E., Marsella, S., Rickel, J., Traum, D. Toward Virtual Humans. in working notes of the AAAI Fall symposium on Achieving Human-Level Intelligence through Integrated Systems and Research, Crystal City, Va, October 2004.

David Traum, Stacy Marsella and Jonathan Gratch, "Emotion and Dialogue in the MRE Virtual Humans," Workshop on Affective Dialogue Systems, Kloster Irsee, Germany, 2004

Tijmen Muller, Arno Hartholt, Stacy Marsella, David Traum, and Jonathan Gratch, "Do you want to talk about it?" Workshop on Affective Dialogue Systems, Kloster Irsee, Germany, 2004

Jonathan Gratch and Stacy Marsella, Evaluating a General Model of Emotional Appraisal and Coping, AAAI Spring Symposium on Architectures for Modeling Emotion: Cross-disciplinary Foundations, Palo Alto, CA 2004

Stacy Marsella, Jonathan Gratch and Jeff Rickel, Expressive Behaviors for Virtual Worlds, in Like-like Characters. Tools, Affective Functions and Applications, Helmut Prendinger and Mitsuru Ishizuka (eds.), Springer-Verlag, 2004.

Hyeoksoo Kim and Jonathan Gratch, "A planner independent approach to human interactive planning," IJCAI Workshop on mixed-Initiative Intelligent Systems, Acapulco, Mexico, 2003.

Stacy Marsella and Jonathan Gratch, "Modeling the influence of emotion on belief for virtual training simulations," in Proceedings of the 11th Conference on Computer Generated Forces and Behavioral Simulation, Orlando, FL, 2002.

Jeff Rickel, Jonathan Gratch, Randall Hill, Stacy Marsella and William Swartout, "Steve goes to bosnia: towards a new generation of virtual humans for interactive experiences," in AAAI Spring Symposium on Artificial Intelligence and Interactive Entertainment, 2001.

Jay Douglas and Jonathan Gratch, "Interactive Storytelling, or How AI, Hollywood, and Multiprocessing Operating Systems can Live Happily Ever After," in Proceedings of the International Conference on Virtual Storytelling, Avignon, France, 2001 (also appears in Lecture Notes in Computer Science, v. 2197, pp. 100-112, 2001).

Jonathan Gratch and Stacy Marsella, "Modeling Emotions in the Mission Rehearsal Exercise" in Proceedings of the 10th Conference on Computer Generated Forces and Behavioral Representation, May 2001

### **Outstanding paper**

Stacy Marsella, Jonathan Gratch, and Jeff Rickel, " The Effect of Affect: Modeling the Impact of Emotional State on the Behavior of Interactive Virtual Humans," in Proceedings of the Agents2001 Workshop on Representing, Annotating, and Evaluating Non-Verbal and Verbal Communicative Acts to Achieve Contextual Embodied Agents, Montreal, Canada, June 2001

Jonathan Gratch, "Socially Situated Planning," in Socially Intelligent Agents - creating relationships with computers and robots, Dautenhahn, Bond, Canamero, and Edmonds

(eds.), Kluwer Academic Publishers, (2002). Also appears in AAAI Fall Symposium on Socially Intelligent Agents - The Human in the Loop, North Falmouth, MA, November 2000.

Jonathan Gratch, "Human-like behavior, alas, demands human-like intellect," Agents 2000 Workshop on Achieving Human-like Behavior in Interactive Animated Agents, Barcelona, Spain, June 2000.

Jonathan Gratch, "Modeling the interplay between emotion and decision making: Proceedings of the 9th Conference on Computer Generated Forces and Behavioral Representation, May 2000.

Youngjun Kim, Randall Hill, and Jonathan Gratch, "How long can you look away from a target," Proceedings of the 9th Conference on Computer Generated Forces and Behavioral Representation, May 2000.

Randall Hill, Jonathan Gratch and Paul Rosenbloom, "Flexible group behavior: lessons learned building virtual commanders," Proceedings of the 9th Conference on Computer Generated Forces and Behavioral Representation, May 2000.

Jonathan Gratch and Randall W. Hill, Jr., "Continuous Planning and Collaboration for Command and Control in Joint Synthetic Battlespaces," in Proceedings of the Eighth Conference on Computer Generated Forces and Behavioral Representation, 1999.

Jonathan Gratch, "Why you should buy an emotional planner," Proceedings of the Agents'99 Workshop on Emotion-based Agent Architectures (EBAA'99)

Jonathan Gratch and Randy Hill, "Continuous Planning and Collaboration for Command and Control in Joint Synthetic Battlespaces," "Proceedings of the 8th Conference on Computer Generated Forces and Behavioral Representation, Orlando, FL, 1999.

Jonathan Gratch, Stacy Marsella, Randy Hill and LTC George Stone, "Deriving Priority Information Requirements for Synthetic Command Entities," "Proceedings of the 8th Conference on Computer Generated Forces and Behavioral Representation, Orlando, FL, 1999.

Jonathan Gratch, "Reasoning about multiple plans in dynamic multi-agent environments," in AAAI Fall Symposium on Distributed Continual Planning, Orlando, FL, 1998.

Jonathan Gratch, "Metaplanning for multiple agents," AIPS98 Workshop on Plan Execution, PA, 1998.

Randall Hill, Johnny Chen, Jonathan Gratch, Paul Rosenbloom, Milind Tambe, "Soar-RWA: Planning, teamwork, and intelligent behavior for synthetic rotary wing aircraft," in "Proceedings of the Seventh Conference on Computer Generated Forces and Behavioral Representation, Orlando, FL, 1998.

Jonathan Gratch, "Task-decomposition Planning for Command Decision Making," "Proceedings of the Sixth Conference on Computer Generated Forces and Behavioral Representation, Orlando, FL, 1996, pp. 37-45.

Jonathan Gratch and Steve Chien, "Active Learning for Adaptive scheduling: A Statistical Approach," "Proceedings of the AAAI Fall Symposium on Active Learning, Boston, MA, 1995, pp. 43-44.

Steve A. Chien and Jonathan Gratch, "Producing Satisficing Solutions to Scheduling Problems: an Iterative Constraint Relaxation Approach," "Proceedings of the Second International Conference on Artificial Intelligence Planning Systems (AIPS94), Chicago, IL, 1994, pp. 78-87.

Jonathan Gratch, Gerald DeJong, and Steve Chien, "Deciding When and How to Learn," "Proceedings of the AAAI Spring Symposium on Goal-Driven Learning, Stanford, CA, 1994, pp. 36-45.

Steve Chien, Jonathan Gratch, and Michael Burl, "A Statistical Approach to Adaptive Problem-Solving for Large-Scale Scheduling and Resource Allocation Problems," "Proceedings of the AAAI Spring Symposium on Decision-Theoretic Planning, Stanford, CA, 1994, pp. 27-33.

Colin Bell and Jonathan Gratch, "Use of Lagrangian Relaxation and Machine Learning Techniques to Schedule Deep Space Network Data Transmissions," in "36th Joint National Meeting of the Operations Research Society of America, the Institute of Management Sciences, Phoenix, AZ, 1993.

Jonathan Gratch, Gerald DeJong, and Yuhong Yang, "Rational Learning: Finding a Balance Between Utility and Efficiency," in "Selecting Models from Data: Artificial Intelligence and Statistics IV, P. Cheeseman and R. W. Oldford (eds.), Springer-Verlag, 1994, pp. 11-20 (also appears in "Proceedings of the Fourth International Workshop on Artificial Intelligence and Statistics, 1993).

Jonathan Gratch, Steve Chien, and Gerald DeJong, "Learning Search Control Knowledge to Improve Schedule Quality," "Proceedings of the 1993 Workshop on Knowledge-based Production Planning, Scheduling, and Control, Chamberry, France, 1993, pp. 159-168.

Jonathan Gratch and Gerald DeJong, "Assessing the Value of Information to Guide Learning Systems," "Proceedings of the Third International Workshop on Knowledge Compilation and Speed-up Learning, Amherst, MA, 1993, pp 65-71.

Jonathan Gratch and Gerald DeJong, "A Framework of Simplifications in Learning to Plan," "Proceedings of the First International Conference on Artificial Intelligence Planning Systems (AIPS92), College Park,



MD, 1992, pp. 78-87.

Jonathan Gratch and Gerald DeJong, "A Framework for Evaluating Search Control Strategies," "Proceedings of the Workshop on Innovative Approaches to Planning, Scheduling, and Control, San Diego, CA, 1990, pp. 337-347.

Michael Case, Jonathan Gratch, and Lee Quek, "A Component-Oriented Tool for the Development of Knowledge Systems," "Proceedings of the 1988 ASME International Computers in Engineering Conference and Exhibition, San Francisco, CA, 1988.

## Technical Reports

Jonathan Gratch. Understanding the mind by simulating the body: virtual humans as a tool for cognitive science research. *Unpublished Manuscript*

Francois Lamothe and Matthew Morales, "Response Behavior," University of Southern California Technical Report ICT-TR-01.2006, Marina del Rey, CA, 2006.

Rick van der Werf, "Creating Rapport with Virtual Humans," University of Southern California Technical Report ICT-TR-02.2006. Marina del Rey, CA, 2006

Arien Kock and Jonathan Gratch, "An evaluation of automatic lip-syncing methods for game environments," University of Southern California Technical Report ICT-TR-01.2005, Marina del Rey, CA, 2005

R. M. Maatman, Jonathan Gratch and Stacy Marsella, "Responsive Rebehavior of a Listening Agent," University of Southern California Technical Report ICT-TR-02.2005, Marina del Rey, CA, 2005

Jonathan Gratch and Stacy Marsella, "Technical details of a domain-independent framework for modeling emotion," Institute for Creative Technologies Technical Report ICT-TR-04.2004, Marina del Rey, CA, 2004.

Jonathan Gratch, "Details of the CFOR Planner," Institute for Creative Technologies Technical Report ICT-TR-02.2002, Marina del Rey, CA, 2002.

Jonathan Gratch, "Why You Should Buy and Emotional Planner", Information Sciences Institute (ISI) Research Report ISI/RR-99-464, March 1999.

Jonathan Gratch, "How to Make Your Planner Rude and Other Issues in Multi-agent Planning", Information Sciences Institute (ISI) Research Report ISI/RR-99-464, March 1999

Jonathan Gratch, "An Effective Method for Correlated Selection Problems," Ph.D Dissertation, Technical Report UIUCDCS-R-94-1898, Urbana, IL, 1994.

Jonathan Gratch and Steve Chien, "An Adaptive Problem-solving Solution to Large-scale Scheduling Problems," Beckman Institute, University of Illinois Technical Report UIUC-BI-AI-94-06, Urbana, IL 1994.

Steve Chien, Jonathan Gratch, and Michael Burl, "On the Efficient Allocation of Resources for Hypothesis Evaluation in Machine Learning: A Statistical Approach," Beckman Institute, University of Illinois Technical Report UIUC-BI-AI-94-01, Urbana, IL 1994

Colin Bell and Jonathan Gratch, "Use of Lagrangian Relaxation and Machine Learning Techniques to Schedule Deep Space Network Data Transmissions," Beckman Institute, University of Illinois Technical Report UIUC-BI-AI-94-02, Urbana, IL 1994.

Jonathan Gratch, "COMPOSER: A Decision-theoretic Approach to Adaptive Problem Solving," Department of Computer Science, University of Illinois Technical Report UIUCDCS-R-93-1806, Urbana, IL, 1993.

Jonathan Gratch and Gerald DeJong, "Rational Learning: A Principled Approach to Balancing Learning and Action," Department of Computer Science, University of Illinois Technical Report UIUCDCS-R-93-1801, Urbana, IL, 1993.

Jonathan Gratch and Steve Chien, "Learning Search Control Knowledge for the Deep Space Network Scheduling Problem: Extended Report and Guide to Software," Department of Computer Science, University of Illinois Technical Report UIUCDCS-R-93-1789, Urbana, IL, 1993.

Jonathan Gratch and Gerald DeJong, "COMPOSER: A Probabilistic Solution to the Utility Problem in Speed-up Learning," Department of Computer Science, University of Illinois Technical Report UIUCDCS-R-92-1724, Urbana, IL, 1992.

Jonathan Gratch and Gerald DeJong, "An Analysis of Learning to Plan as a Search Problem," Department of Computer Science Technical Report UIUCDCS-R-92-1723, Urbana, IL, 1992.

Jonathan Gratch, Gerald DeJong, and Youhong Yang, "Rational Learning: (extended version)," Department of Computer Science, University of Illinois Technical Report UIUCDCS-R-92-1756, Urbana, IL, 1992.

Gerald DeJong and Jonathan Gratch, "Review of Steve Minton's PRODIGY/EBL," "Artificial Intelligence 50 (1991) pp. 117-127.

Jonathan Gratch and Gerald DeJong, "On Comparing Operationality and Utility," Department of Computer Science, University of Illinois Technical Report UIUCDCS-R-91-1713, Urbana, IL, 1991.

Jonathan Gratch and Gerald DeJong, "The Trouble with Gestalts: The Composability Problem in Control Learning," Department of Computer Science, University of Illinois Technical Report UIUCDCS-R-91-1684, Urbana, IL, 1991.

Jonathan Gratch and Gerald DeJong, "Utility Generalization and Composability Problems in Explanation-Based Learning," Department of Computer Science, University of Illinois Technical Report UIUCDCS-R-91-1681, Urbana, IL, 1990.

Jonathan Gratch and Gerald DeJong, "A Framework for Evaluating Search Control Strategies," Department of Computer Science, University of Illinois Technical Report UIUCDCS-R-90-1620, Urbana, IL, 1990.