

# Arnav Jhala

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## EMPLOYMENT HISTORY

2009– Assistant Professor, University of California Santa Cruz  
2009–2010 Summer Instructor, Duke University / Indian Institute of Management–Ahmedabad  
2008–2009 Assistant Professor, IT University of Copenhagen  
2004–2008 Research/Teaching Assistant, North Carolina State University  
2006 Summer Intern, Virtual Heroes Inc., Cary, NC  
2003–2004 Research Programmer, University of Southern California  
2002 Summer Intern, Blackbaud Inc., Charleston, SC  
2001–2003 Research Assistant, North Carolina State University  
2000–2001 Undergraduate Intern, Indian Space Research Organization, Ahmedabad, India.

## EDUCATION

2009 Ph.D., Computer Science, North Carolina State University (Advisor: R. Michael Young)  
2004 M.S. (Thesis), Computer Science, North Carolina State University (Advisor: R Michael Young)  
2001 B.Eng., Computer Engineering, Gujarat University

## HONORS

**Best Student Paper**, with Ben Weber and Michael Mateas, at the *International Conference on Artificial Intelligence in Interactive Digital Entertainment (AIIDE)*, Stanford University, CA 2010

**Best Paper**, with Ben Weber, Peter Mawhorter, and Michael Mateas, at the *IEEE International Conference on Computational Intelligence and Games*, Copenhagen, Denmark, 2010

**Nominee: Best Short Video Award** for the video *Westworld: A Domain for Automatically Generated Movies* at the International Conference on Artificial Intelligence (AAAI) video competition in Chicago, IL, 2008 (2 out of 34 submissions were nominated internationally)

**Nominee: Best Explanation Award** for the video *Cosmo: A Lifelike Pedagogical Agent* at the International Conference on Artificial Intelligence (AAAI) video competition Vancouver, BC, Canada. (4 out of 30 submissions were nominated internationally)

**Outstanding Teaching Assistant**, North Carolina State University, 2005.

**RESEARCH GRANTS (GOVERNMENT SPONSORED)**

- 2014-2017 **Co-PI**, *US National Science Foundation, CHS:MEDIUM:COLLABORATIVE PROPOSAL: Responsive Generation of Intrinsically Motivating Scenarios*, (with PI Michael Mateas and Co-PIs Noah Wardrip-Fruin, Jill Denner– ETR Associates) \$1.2M (UCSC portion \$857,000)
- 2012-2014 **Co-PI**, *US National Science Foundation, EAGER: Responsive Generation of Intrinsically Motivating Scenarios*, (with PI Noah Wardrip-Fruin and Co-PI Michael Mateas) \$151,044
- 2010–2014 **PI**, *US National Science Foundation, RI: Small: A Human-Level Real-Time Integrated Agent* (with Co-PI Michael Mateas), \$464,090 (including \$16,000 Research Experience for Undergraduates (REU) Supplement)
- 2010–2013 **PI**, *European Union FP7 Framework Program – ICT, SIREN: Social Games for Conflict Resolution* (with UCSC Co-PIs Michael Mateas and Noah Wardrip-Fruin, and partners at NTU-Athens, INESEC-Portugal, University of Birmingham-UK, and ITU Copenhagen-Denmark), €2.9 Million (UCSC portion €203,400)

**INDUSTRY SPONSORED RESEARCH**

- 2013-2015 **PI**, *Project Galaxy*, Microsoft Game Studios Sponsored Research Project, \$87,500
- 2013-2015 **PI**, *Project Starfield*, Microsoft Game Studios Sponsored Research Project, \$87,500
- 2012 **PI**, *Haggler and NuAds Projects*, Microsoft Game Studios Gift to the Center for Games and Playable Media, \$50,000 (out of total gift amount of \$175,000 awarded to the Center)
- 2012 **Co-PI** and Supervising Instructor (with PIs Jim Whitehead, Michael Mateas, Noah Wardrip-Fruin, and Marilyn Walker), *eBay* sponsorship for *CMPS179: Game Design Practicum* class in Summer 2012, \$135,000
- 2011 **PI** Microsoft University Relations, Equipment Grant, \$800 (XBox units)

**OTHER GRANTS, FUNDRAISING, AND SCHOLARSHIPS**

- 2013-2014 **Co-PI**, *Creating an Interactive Timeline of the History of Dar-es-Salaam, Tanzania*, UCSC Committee on Research (with PI Prof. David Anthony – History Department UCSC), \$1500
- 2014 **Co-PI**, *BIOS: Biosurveillance and Biometrics–Ethical and Humanistic Implications*, UC Humanities Research Institute Vital Dialogues Program, (with PI Prof. Nancy Chen–Anthropology and Co-PI Prof. Ronnie Lipschutz–Politics), \$11,000
- 2013-2014 **Faculty Sponsor**, *Fungal Clock: An Experimental Web Platform for Compositing Multi-species Histories and Ecologies*, UCIRA- UC Institute for the Research in Arts (with PI: Elaine Gan – PhD Student in Film and Digital Media), \$5,000
- 2012 **Major Instrument User**, *US National Science Foundation, CAVE and FLEX equipment - Major Research Instrumentation Grant-MRI* (PIs Sri Kurniawan, Warren Sack, Michael Mateas, Stephen Whittaker, and Noah Wardrip-Fruin), \$512,000 (\$300,000 from NSF, \$212,000 from UCSC)
- 2011 **PI** Funding to support the AAI Video Competition, *Artificial Intelligence Journal Editorial Board*, \$6,400
- 2008 Scholarship for attending CRA career mentoring workshop, *Computing Research Association*, \$1,000

## PUBLICATIONS

### Journals

- J3. [2010] Towards Affective Camera Control in Games, G. Yannakakis, H P Martinez, **A Jhala**, *User-Modeling and User Adapted Interaction (UMUAI)*, 2010.
- J2. [2010] Cinematic Narrative Discourse: Representation, Generation, and Evaluation, **A Jhala** and R M Young, *IEEE Transactions on Computational Intelligence and Artificial Intelligence in Games (TCIAIG)*, 2010.
- J1. [2004] An Architecture for Integrating Plan-Based Behavior Generation with Interactive Game Environments, R M Young, M Riedl, M Branly, **A Jhala**, R J Martin, C J Saretto, *Journal of Game Development*, 1, 2004

### Edited Volumes, Book Chapters, Magazine Articles

- B4. [2013] The 8<sup>th</sup> AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment, by M. Riedl, G. Sukthankar, **A. Jhala**, J. Zhu, S. Ontan, M. Buro, D. Churchill, *AI Magazine Vol. 34 No. 1*, 2013
- B3. [2012] The 7<sup>th</sup> AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment, by V. Bulitko, M. Riedl, **A. Jhala**, M. Buro, and N. Sturetevant, *AI Magazine Vol. 33 No. 1*, 2012
- B2. [2010] Intelligent Machinima Generation for Visual Storytelling, *Chapter in Artificial Intelligence for Computer Games*, Pedro Gonzales Calero (Ed.), 2010
- B1. [2010] *Proceedings of the 3<sup>rd</sup> Intelligent Narrative Technologies Workshop*, **A Jhala**, M Riedl, D Roberts (Eds.), ACM Digital Library ISBN: 978-1-4503-0022-3

### Conferences - Peer Reviewed

- C26. [2014] Converging to a Player Model in Monte-Carlo Tree Search by T. Sarratt, D. Pynadath and **A. Jhala**, *IEEE Computational Intelligence and Games Conference (CIG)*, Dortmund, Germany 2014.
- C25. [2014] Opponent State Modeling in RTS games with Limited Information using Markov Random Fields by M.Leece and **A. Jhala**, *IEEE Computational Intelligence and Games Conference (CIG)*, Dortmund, Germany 2014.
- C24. [2014] Towards a Theory of Choice Poetics by P. Mawhorter, M. Mateas, N. Wardrip-Fruin, and **A. Jhala**, in *Proceedings of the Foundations of Digital Games Conference (FDG)*, Mexico, 2014.
- C23. [2013] Synthetic Photographs for Preference Learning, S. Morgens and **A. Jhala**, *Association for the Advancement of Artificial Intelligence (AAAI) conference (Late Breaking Results Track)*, Bellevue, WA 2014.
- C22. [2013] Metrics for Character Believability in Interactive Narrative, P. Gomes, A. Paiva, C. Martinho, and **A. Jhala**, *Proceedings of International Conference on Interactive Digital Storytelling (ICIDS)*, Istanbul, Turkey, 2013.
- C21. [2013] Reinforcement Learning for Spatial Reasoning in Strategy Games, M. Leece and **A Jhala**, *Proceedings of Artificial Intelligence in Interactive Digital Entertainment conference (AIIDE)*, Northeastern University, Boston, MA 2013.

- C20. [2013] AI Authoring for Virtual Characters in Conflict. Paulo Gomes and **A Jhala**, *Proceedings of Artificial Intelligence in Interactive Digital Entertainment conference (AIIDE)*, Northeastern University, Boston, MA 2013.
- C19. [2012] Learning Visual Composition Preferences through Gameplay Data by R. Swanson, D. Escoffery, and **A. Jhala**, *IEEE Computational Intelligence and Games Conference (CIG)*, Granada, Spain 2012.
- C18. [2012] Learning from Demonstration for Goal-Driven Autonomy by B Weber, M Mateas, **A Jhala**, *Association for the Advancement of Artificial Intelligence (AAAI) conference*, 2012. **Acceptance Rate: 26%**.
- C17. [2011] Modeling Player Retention in Madden NFL 11, B Weber, M John, M Mateas, **A Jhala**, *Proceedings of Innovative Applications of Artificial Intelligence (IAAI) conference*, San Francisco, CA 2011.
- C16. [2011] A Particle Model for State Estimation in Real-Time Strategy Games. B Weber, M Mateas, **A Jhala**, *Proceedings of Artificial Intelligence in Interactive Digital Entertainment conference (AIIDE)*, Stanford University, Palo Alto, CA 2011.
- C15. [2010] SIREN: Toward Adaptive Serious Games for Teaching Conflict Resolution by G N Yannakakis, J Togelius, R Khaled, **A Jhala**, K Karpouzis, A Paiva, A Vasalou, in *Proceedings of the 4th European Conference on Games Based Learning (ECGBL 10)*, Copenhagen, 2010
- C14. [2010] Applying Goal-Driven Autonomy to StarCraft Bots by B Weber, M Mateas, **A Jhala**, *Proceedings of Artificial Intelligence in Interactive Digital Entertainment conference (AIIDE)*, Stanford University, Palo Alto, CA 2010. **Best Student Paper Award**
- C13. [2010] Reactive Planning Idioms for Multi-Scale Game AI. by B Weber, P Mawhorter, M Mateas, and **A Jhala**, in *Proceedings of the IEEE Computational Intelligence and Games Conference*, Copenhagen, Denmark, 2010. **Best Paper Award**
- C12. [2009] Comparing Effects of Different Cinematic Visualization Strategies on Viewer Comprehension, by **A Jhala** and R M Young, *Proceedings of the International Conference on Interactive Digital Entertainment (ICIDS09)*, Springer, Guimaraes, Portugal, 2009. **Acceptance Rate: 20% for Long Papers**
- C11. [2009] Analyzing the Impact of Camera Viewpoint on Player Psychophysiology, by H P Martinez, **A Jhala**, and G Yannakakis, *Proceedings of the conference on Affective Computing and Intelligent Interaction (ACII09)*, Amsterdam, Netherlands, September 2009. **Acceptance Rate: 36%**
- C10. [2009] Dynamic Artificial Potential Fields for Autonomous Camera Control, by P Burelli and **A Jhala**, *Proceedings of the Fifth Artificial Intelligence in Interactive Digital Entertainment Conference (AIIDE09)*, Stanford, CA, October 2009.
- C9. [2009] Investigating the Interplay between Camera Viewpoints, Game Information, and Challenge, by **A Jhala**, M Schwartz, H P Martinez, and G Yannakakis, *Proceedings of the Fifth Artificial Intelligence in Interactive Digital Entertainment Conference (AIIDE09)*, Stanford, CA, October 2009.
- C8. [2009] Towards Data-Driven Drama Mangement: Issues in Collection and Annotation of Data, by A Drachen, **A Jhala**, G Yannakakis, and M Hitchens, *Proceedings of Digital Games Research Association Conference (DiGRA09)*, Brunel University, London, UK, September 2009.

- C7. [2008] Automatically Generating Summary Visualizations from Game Logs, by Y Cheong, **A Jhala**, B Bae, and R M Young, in *Proceedings of the Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE 08)*, Stanford, CA, October, 2008.
- C6. [2008] Exploiting Structure and Conventions of Movie Scripts for Information Retrieval and Text Mining, by **A Jhala**, in *Proceedings of the First International Conference on Interactive Digital Storytelling (ICIDS 08)*, Erfurt, Germany, November, 2008. **Acceptance Rate: 25%**
- C5. [2008] Longboard: A sketch based intelligent storyboarding tool, **A Jhala**, C Rawls, S Munilla, and R M Young, in *Proceedings of the 21st Florida AI Research Society Conference (FLAIRS-21)*, Coconut Grove, Florida, May 2008.
- C4. [2007] A Tale of Two Classes: On Interdisciplinary Collaboration in Games Education, **A Jhala**, R M Young, T Buie, *2nd Microsoft Academic Days in Game Development Conference*, Disney Wonder Cruise Ship, 2007. **Acceptance Rate: 23%**
- C3. [2006] Representational Requirements for a Plan Based Approach to Camera Control in Virtual Environments, **A Jhala**, R M Young, *Proceedings of 2nd Artificial Intelligence in Interactive Digital Entertainment Conference (AIIDE 2006)*, Marina Del Rey, CA, 2006.
- C2. [2005] A Discourse Planning Approach to Cinematic Camera Control for Narratives in Virtual Environments, **A Jhala**, R M Young, *Proceedings of the 20th National Conference on Artificial Intelligence, AAAI-05*, Pittsburgh, PA. **Acceptance Rate: 21%**
- C1. [2004] Branching storylines in virtual reality environments for leadership development, A Gordon, M vanLent, M vanVelsen, P Carpenter, **A Jhala**, *Proceedings of the Sixteenth Innovative Applications of Artificial Intelligence Conference, IAAI04*, July 25-29, San Jose, CA, AAAI Press.

### Workshops, Short Papers and Posters (peer-reviewed)

- W21. [2014] Mid-Scale Shot Classification for Detecting Narrative Transitions in Movie Clips, B. Zhang and **A. Jhala**, *Intelligent Cinematography and Editing Workshop at AAAI-14*, Quebec City, 2014.
- W20. [2014] Multi-modal analysis of Movies for Rhythm Extraction, D. Bates and **A. Jhala**, *Intelligent Cinematography and Editing Workshop at AAAI-14*, Quebec City, 2014.
- W19. [2014] Automating Camera Control in Games through Gaze, C. Alston and **A. Jhala**, *Intelligent Cinematography and Editing Workshop at AAAI-14*, Quebec City, 2014.
- W18. [2014] EduCam : Cinematic Vocabulary for Educational Videos, S. Morgens and **A. Jhala**, *Intelligent Cinematography and Editing Workshop at AAAI-14*, Quebec City, 2014.
- W17. [2014] Gamification of private digital data archive management, C. Maltzahn, **A. Jhala**, M. Mateas, and J. Whitehead, *Gamification for Information Retrieval Workshop (at ECIR conference)*, Amsterdam, 2014.
- W16. [2013] Inferring Performer Skill from Aesthetic Quality Features in a Dance Game Gesture Corpus, C. Maraffi, S. Ishikawa, and **A. Jhala**, *Aesthetics in Games Workshop at AIIDE 2013*, Northeastern University, Boston, MA, 2013.
- W15. [2013] User Modelling and Adaptive, Natural Interaction for Conflict Resolution, by K Karpouzis, G Yannakakis, A Paiva, JH Nielsen, A Vasalou, and **A Jhala**, *Affective Computing and Intelligent Interaction (ACII)*, 2013

- W14. [2012] User Modelling and Adaptive, Natural Interaction for Conflict Resolution, by K Karpouzis, G Yannakakis, A Paiva, JH Nielsen, A Vasalou, and **A Jhala**, *IEEE 12th International Conference on Advanced Learning Technologies (ICALT)*, 2012
- W13. [2012] Development of a Research Agenda to Explore Value-Based Software Design, by P. Compton, P. Collopy, G. Reed, D. Shapiro, and **A Jhala**, *International Annual Conference of the American Society of Engineering Management, ASEM*, 2012
- W12. [2012] Rich Computational Model of Conflict for Virtual Characters, by R Swanson and **A Jhala**, *Intelligent Virtual Agents (IVA2012)*, Santa Cruz, CA, September 2012.
- W11. [2012] A Crowd-Sourced Annotated Corpus of Narratives for Studying Conflict, by R Swanson and **A Jhala**, *Computational Models of Narrative Workshop*, Istanbul, Turkey, 2012.
- W10. [2011] Performatology: A Procedural Acting Approach for Interactive Drama in Cinematic Games, by Christopher Maraffi and Arnav Jhala, *Proceedings of the International Conference on Interactive Digital Storytelling (ICIDS)*, Vancouver, Canada, 2011.
- W9. [2011] Building Human-Level AI for Real-Time Strategy Games, by Ben Weber, Michael Mateas, and Arnav Jhala, *AAAI Fall Symposium on Advances in Cognitive Systems*, Arlington, VA, 2011.
- W8. [2011] Using Data Mining to Model Player Experience, by Ben Weber, Michael Mateas, and Arnav Jhala *Workshop on Evaluating Player Experience at the Foundations of Digital Games (FDG) Conference*, Paris, France, 2011.
- W7. [2010] Moving Beyond Genre-Specific Camera Control in Games: How AI can help explore fun design spaces. by **A Jhala**, *AI and Fun workshop, AAAI 2010*, Atlanta, GA, 2010.
- W6. [2010] Case-Based Goal Formulation. by B Weber, M Mateas, **A Jhala**, *Goal-Directed Autonomy workshop, AAAI 2010*, Atlanta, GA, 2010.
- W5. [2010] RoleModel: Toward a Formal Model of Character Roles for Generating Narrative Variation. by S Chen, A Smith, **A Jhala**, N Wardrip-fruin, M Mateas, 3rd Intelligent Narrative Technologies workshop, Foundations of Digital Games (FDG) conference, Monterey, CA, 2010.
- W4. [2009] Challenges in Design and Development of Interactive Narrative Authoring Tools, by **A Jhala**, and M. van Velsen, *Intelligent Narrative Technologies Workshop, AAAI Spring Symposium*, Stanford, CA, 2009.
- W3. [2009] Evaluation of Intelligent Camera Control Systems Based on Cognitive Models of Comprehension, **A Jhala** and R M Young, in *Proceedings of the Fourth Foundations of Digital Games Conference (FDG 09)*, Orlando FL, April, 2009.
- W2. [2006] Darshak: An Intelligent Cinematic Camera Planning System, **Arnav Jhala**, *Proceedings of the 20th National Conference on Artificial Intelligence (AAAI 2006)*, Boston, MA. (Doctoral Consortium Paper) **Acceptance Rate: 30%**
- W1. [2005] Towards an intelligent storyboarding tool for 3D environments, **A Jhala**, W Bares, R M Young, *Proceedings of the ACM International Conference on Advances in Computer Entertainment, ACE 2005*, Valencia, Spain.

**Other (non-peer reviewed publications and theses)**

- O4. [2009] Cinematic Discourse Generation, **A Jhala**, Doctoral Dissertation, Department of Computer Science, North Carolina State University, 2009.
- O3. [2006] DACUM Report: Simulation and Game Development (*Developing a Curriculum exercise*), Co-developed for *Wake Technical Community College* with 12 video game industry panel members.
- O2. [2006] Intelligent Replay System for After-Action Review in Real-Time Multiplayer Game Environments, **Arnav Jhala**, Whitepaper, *Virtual Heroes Inc.*, Raleigh, NC.
- O1. [2004] An Intelligent Camera Planning System for Dynamic Narratives, **A Jhala**, Masters thesis, Department of Computer Science, North Carolina State University, 2004.

**Data and Software**

- D2. [2011] **Panorama**, Photography Game and 28000+ photograph rankings collected from Amazon's Mechanical Turk crowdsourcing platform. Available for download at : [games.soe.ucsc.edu/project/panorama](http://games.soe.ucsc.edu/project/panorama)
- D1. [2011] **SIREN**, Collection of annotated conflict scenario narratives and choice of resolution strategies with anonymized personality profiles of participants. Available for download at : [games.soe.ucsc.edu/project/siren](http://games.soe.ucsc.edu/project/siren)

**INVITED TALKS**

- 2012 **Computational Models of Narrative for Educational Games**  
**Keynote**, *European Conference on Technology Enhanced Learning, EC-TEL*, Pedagogical Games Workshop, Saarbruecken, Germany, September, 2012.
- 2012 **Computational Cinematics Research: Collecting Data on Composition Preferences**  
*Monthly Valley Lecture Series - Panasonic Silicon Valley Research Center*, Cupertino, CA
- 2012 **Computational Cinematics Research: Expanding the Design Space of Games Through Procedural Camera Control**  
*Special Lecture Series/Computer Science, University of San Francisco*, San Francisco, CA
- 2011 **Moving Beyond Genre-Specific Camera Control in Games**  
*Simon Fraser University*, Vancouver, Canada
- 2010 **Investigating the Interplay between Camera Parameters, Game Information, and Player Preferences**  
*Dhirubhai Ambani Institute for Information Technology (DA-IICT)*, Gandhinagar, India, 2010
- 2010 **Moving Beyond Genre-Specific Camera Control in Games**  
*AI and Fun workshop, AAAI 2010*, Atlanta, GA, 2010.
- 2009 **Adaptive Camera Control in Training Environments**  
Virtual Heroes Division, Applied Research Associates(ARA), RTP, NC, October 2009
- 2009 **Investigating the Interplay between Camera Parameters, Game Information, and Player Preferences**  
*Future of Games Seminar Series*, North Carolina State University, October 2009

- 2009      **Cinematic Visual Discourse: Representation, Reasoning, and Evaluation**  
INESC-ID / Instituto Superior Tecnico, Portugal, December 2009  
Department of Computer Science, University of York, York, UK, September 2009
- 2009      **Computer Games in Entertainment and Education.**  
Center for Educational Innovation, Indian Institute of Management-Ahmedabad, Gujarat, India, June 2009
- 2008      **Darshak: A Cinematic Discourse Planning System.**  
Department of Computer Science, University of California, Santa Cruz, CA. April 2008  
Department of Computer Science, George Mason University, Fairfax, VA. February 2008  
Center for Computer Games Research, IT University of Copenhagen, Copenhagen, Denmark, June 2008
- 2006      **Virtual Cinematography: Application of Planning Techniques.** Department of Computer Science, University of North Carolina, Greensboro, NC. April 19, 2005  
Department of Computer Science, University of North Carolina, Charlotte, NC. Summer 2006
- 2004      **Cinematic Camera Control in Virtual Environments**  
AAAI Fall Symposium, Workshop on Style and Meaning in Language, Art and Design, Washington D.C. 2004.
- 2003      **Visualizing the *Leaders* Branching Storyline**  
Internship exit talk at the Institute for Creative Technologies, University of Southern California. 2003
- 2003      **Mimesis: An Interactive storytelling architecture**  
Interactive Narrative Summit at Institute for Creative Technologies, University of Southern California, LA. 2003

## INVITED TUTORIALS

- 2009      **Beginning Unreal Tournament Scripting.**  
International Conference on *Foundations of Digital Games* (ICFDG), Disney Wonder Cruise Ship, Bahamas, 2009
- 2005-06      **Unreal Tournament Scripting Tutorial.**  
Department of Computer Science, University of North Carolina, Charlotte, NC, January 2006 and July 2005
- 2005      **Creating game mods with Unreal Tournament game engine, and Virtual cinematography for in-game cinematics.,** *Digital Games Expo*, Wake Tech Community College, NC, June 2005

## TEACHING

- **CMPS 20: Game Design Experience**, Winter 2010, 2011, 2012, 2013.
- **CMPS 164/L: Game Engine Programming**, Spring 2011, 2012, 2013, 2014.
- **CMPS 290P: Computational Cinematography**, Fall 2011, 2012, 2013.
- **CMPS 148/248: Interactive Narrative**, Winter 2010.
- **CMPS 244: Artificial Intelligence in Computer Games**, Fall 2010.
- **CMPS 280J: Seminar in Computer Graphics** (with James Davis), Spring 2011.
- **CMPS 280A: Seminar in Computational Media**, Fall 2013.



## University Service

- 2013– Academic Senate Committee on International Education (CIE), UCSC
- 2014 Senior International Officer search committee (Vice-Provost for International Affairs), UCSC
- 2014 Executive Committee, Digital Arts and New Media program, Division of the Arts, UCSC
- 2013 Faculty Search Committee (voting member), Animation, Department of Film and Digital Media, UCSC
- 2011– Graduate Committee – Admissions, Computer Science, UCSC
- 2009–2011 Undergraduate Committee, Computer Science, UCSC
- 2009 Graduate Committee, ITU Copenhagen

## External Service

- 2014 **Program Chair**, *AAAI Conference on Artificial Intelligence in Interactive Digital Entertainment (AIIDE)*, Raleigh, NC, October 3-7, Raleigh, NC, 2014.
- 2012, 2014 **Panelist**, *Graduate Fellowship Program, National Science Foundation*
- 2012 **Founding Chair**, *Workshop on Intelligent Cinematography and Editing (WICED)* at the *Foundations of Digital Games Conference*, Raleigh, NC 2012
- 2012 **Founding Chair**, AIIDE Doctoral Consortium program, Stanford, CA, October 2012.
- 2012 **Reviewer**, *IEEE Transactions on Computational Intelligence and AI in Games (TCIAIG)*, 2012.
- 2012 **Reviewer**, *ACM Transactions on Graphics*, (invited–declined), 2012.
- 2012 **Reviewer**, Annual AI Video Awards at the International Conference on Artificial Intelligence (AAAI'12), , 2012.
- 2012 **Chair**, Posters, Demo, and GALA Event at the *International Conference on Virtual Agents (IVA)*, Santa Cruz, CA, September 2012.
- 2011 **Founding Chair**, AIIDE Workshop Program, Stanford, CA, October 2012.
- 2010 **Chair**, *3<sup>rd</sup> Intelligent Narrative Technologies Workshop (INT3)* at the *Foundations of Digital Games Conference*, Monterey, CA.
- 2010-11 **Chair**, *4<sup>th</sup> and 5<sup>th</sup> Annual AI Video Awards* at the International Conference on Artificial Intelligence (AAAI'10 and AAAI'11), Atlanta, GA and San Francisco, CA.
- 2010-12 **Organization Committee Member**, International Conference on Artificial Intelligence in Interactive Digital Entertainment (AIIDE'10), Palo Alto, CA.
- 2011 **PC Member** *Autonomous Agents and Multi-Agent Systems Conference (AAMAS)*, 2011
- 2011 **Reviewer** ACM SIGGRAPH Conference on Graphics
- 2010– **Board of Reviewers**, *Game Studies Journal*
- 2009– **PC Member** IEEE Computational Intelligence and Games Conference (IEEE CIG)
- 2009– **Reviewer** *IEEE Transactions on Computational Intelligence and AI in Games (TCIAIG)*
- 2009 **Reviewer** *Constraints Journal*
- 2008-2009 **Reviewer** Intelligent User Interfaces Conference (IUI)
- 2006–2009 **PC Member** ACM Advances in Computer Entertainment Conference (ACE)
- 2008– **PC Member** ACM Digital Interactive Media Entertainment and Art Conference (DIMEA)
- 2008– **PC Member** FLAIRS Special Track on Games and Entertainment
- 2007– **PC Member** Artificial Intelligence in Interactive Digital Entertainment(AIIDE'10)

- 2007– **PC Member** Foundations of Digital Games Conference (FDG)  
2007 **Reviewer** International Computer-Human Interfaces Conference (CHI)  
2005–2006 **Reviewer** *Journal of Game Development (JoGD)*

## SUPERVISION

### Post-Doctoral Researchers

- **Reid Swanson**, Ph.D. *University of Southern California*, 2010  
Post-doctoral Researcher, UC Santa Cruz.

### Graduated Students

- **Ben Weber**  
Ph.D. (co-supervised with Michael Mateas), UC Santa Cruz, *Graduated - 2012*  
now User Experience Researcher at *Microsoft Game Studios*  
previous internship at *Electronic Arts*
- **Christopher Maraffi**  
M.S. (primary advisor), UC Santa Cruz, *Graduated MS - 2014, currently PhD student on leave*  
Assistant Professor, *University of South Carolina-Beaufort*.
- **Kenneth Hullett**  
Ph.D. (Thesis committee member; Supervisor - Jim Whitehead), UC Santa Cruz *Graduated - 2012*  
now Analytics Engineer at *GREE Corporation*  
previous internships at *ITU Copenhagen* and *Microsoft Research*
- **Dustin Escoffery**  
MS-Computer Science(Thesis), UC Santa Cruz *Graduated March 2012*  
now at *Blizzard Entertainment* Committee : Alex Pang and James Davis  
previous internship at *USC Institute for Creative Technologies - ICT*
- **Tyler Munger**  
MS-Technology and Information Management(Thesis) (Thesis Committee; Primary Supervisor: Subhas Desa)  
now Ph.D. Student at *UC Santa Cruz*
- **Benjamin Keidan**  
MS-Computer Science (Project)  
UC Santa Cruz, *Graduated 2010*  
now Technical Architect at *American Data Company*
- **Robert Chalhoub**  
MS-Computer Science (Project committee member; Supervisor - Alex Pang), UC Santa Cruz, *Graduated 2010*
- **Martin Schwartz**  
MS-Media, Technology, and Games (with Thesis), ITU Copenhagen, *Graduated 2009*  
now Game Programmer at *Apex Virtual Entertainment*
- **Sara Grodin**  
MS-Media, Technology, and Games (with Thesis), ITU Copenhagen *Graduated 2009*

- **Wesley Souza**  
REU student, BS-Applied Math and CS, UCSC *Graduated, March 2012*  
now Game Developer at *Zynga*

### Current

- **Morteza Behrooz**  
Ph.D. student, UC Santa Cruz *Expected Graduation 2017*
- **Lena Reed**  
Ph.D. student, UC Santa Cruz *Expected Graduation 2017*
- **Suzanna De Cammara**  
Ph.D. student, UC Santa Cruz *Expected Graduation 2017*
- **Sarah Harmon**  
Ph.D. student, UC Santa Cruz, *Expected Graduation 2016*
- **Soja Marie-Morgens**  
Ph.D. student, UC Santa Cruz *Expected Graduation 2016*
- **Paulo Gomez**  
Ph.D. student, UC Santa Cruz, *Expected Graduation 2016*
- **Cameron Alston**  
Ph.D. student, UC Santa Cruz, *Expected Graduation 2015*  
internship at *Intel Corp.*
- **Michael Leece**  
Ph.D. student, UC Santa Cruz, *Expected Graduation 2015*  
internship at the *NASA Ames Research Center*
- **Trevor Sarratt**  
Ph.D. student, UC Santa Cruz, *Expected Graduation 2015*
- **Christopher Maraffi**  
Ph.D. student, UC Santa Cruz, *Expected Graduation 2014*
- **James Skorupski**  
Ph.D. candidate (Thesis committee member; supervisor - Michael Mateas), UC Santa Cruz *Expected Graduation 2012*
- **Sherol Chen**  
Ph.D. student (Primary supervisor - Michael Mateas), UC Santa Cruz, *Expected Graduation 2013*
- **Thomas Lindsey Freeman**  
MS-Computer Science, UC Santa Cruz *Expected Graduation, 2013*
- **Jennifer Parrish**  
MS-Computer Science, UC Santa Cruz *Expected Graduation March 2013*
- **Adrien Young**  
MS-Computer Science, UC Santa Cruz *Expected Graduation March 2012*

- **Eriq Lipshutz**  
REU student, BS-CS Game Design, UCSC *Expected Graduation, 2014*
- **Justin Telmo**  
REU student, BS-CS Game Design, UCSC *Expected Graduation, 2014*