

Ben Samuel

Curriculum Vitae

Department of Computer Science
University of New Orleans
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EDUCATION

- 2016 Ph.D. Computer Science. University of California, Santa Cruz.
Dissertation: *Crafting Stories Through Play*
Adviser: Noah Wardrip-Fruin
- 2012 M.S. Computer Science. University of California, Santa Cruz.
Thesis: *Comme il Faut: A System for Authoring Playable Social Models*
Adviser: Noah Wardrip-Fruin
- 2008 Graduate Certificate Degree in Theatre Arts. University of California, Santa Cruz.
- 2007 B.A. Computer Science. University of California, Santa Cruz.
- 2007 B.A. Theatre Arts. University of California, Santa Cruz.

EMPLOYMENT HISTORY

- 2017-Present **Assistant Professor of Computer Science**, University of New Orleans.
- 2017 **Postdoctoral Scholar**, University of California, Santa Cruz.
- 2009-2016 **Research Assistant**, University of California, Santa Cruz.

TEACHING EXPERIENCE

- 2020 **Instructor of Record**, University of New Orleans.
Introduction to Artificial Intelligence (Spring 2020)
Survey course covering various AI techniques, problems, and algorithms. Topics include search, logic, planning, and machine learning. Adapted 20 slide decks with thousands of slides, and adapted the course for online deployment. 12 students.
- 2020 **Instructor of Record**, University of New Orleans.
Advanced Game Development (Spring 2020)
Oversaw programmers and artists produce three complete games. Learning objectives include agile/scrum techniques and interdisciplinary collaboration and communication. Re-imagined the course for online deployment. 15 students.
- 2019 **Instructor of Record**, University of New Orleans.
Fundamentals of Game Development (Fall 2019)
Students are tasked with developing a critical discourse around games through analyzing existing games and developing and iterating their own 2D and 3D prototypes. Delivered 20+ lectures to approx. 25 students.

- 2019 **Instructor of Record**, University of New Orleans.
Topics in Mobile Application Development (Fall 2019)
A course on developing Android applications. Course focused on app development, design research, and project work. Delivered 20+ lectures to approx. 30 students. Iterated on previously developed syllabus, assignments, and lectures.
- 2019 **Instructor of Record**, University of New Orleans.
Advanced Game Development (Spring 2019)
Programmers, artists, and musicians form semester-long teams to produce games. Learning objectives include agile/scrum techniques and interdisciplinary collaboration and communication. Re-imagined the course from previous offerings.
- 2019 **Instructor of Record**, University of New Orleans.
Software Design I (Spring 2019)
An introductory programming and software engineering class. Topics include control structures, object oriented programming, and inheritance. Delivered 30+ lectures to 30 students. Iterated on hundreds of slides. Graded assignments and exams.
- 2018 **Instructor of Record**, University of New Orleans.
Topics in Mobile Application Development (Fall 2018)
A course on developing Android applications. Course focused on app development, design research, and project work. Delivered 20+ lectures to approx. 25 students. Created syllabus, assignments, and project description from scratch.
- 2018 **Instructor of Record**, University of New Orleans.
Software Design I (Fall 2018)
An introductory programming and software engineering class. Topics include control structures, object oriented programming, and inheritance. Delivered 30+ lectures to 30 students. Iterated on hundreds of slides. Graded assignments and exams.
- 2018 **Instructor of Record**, University of New Orleans.
Software Design I (Spring 2018)
An introductory programming and software engineering class. Topics include control structures, object oriented programming, and inheritance. Delivered 30+ lectures to 35 students. Iterated on hundreds of slides. Graded assignments and exams.
- 2017 **Instructor of Record**, University of New Orleans.
Software Design I (Fall 2017)
An introductory programming and software engineering class. Topics include control structures, object oriented programming, and inheritance. Delivered 20+ lectures to 30 students. Created hundreds of slides. Graded assignments and exams.
- 2016 **Teaching Assistant**, University of California, Santa Cruz.
Design Research (Spring 2016)
Class structured around identifying a real-world problem and designing and iterating on a prototype solution via observation, interviews, mood boards, and user tests. Graded assignments, provided feedback, and ran several lectures.
- 2016 **Teaching Assistant**, University of California, Santa Cruz.
Introduction to Computer Science (Winter 2016)
Taught undergrads from engineering and non-engineering majors the foundations and joy of programming and procedural literacy. Ran three lab sections a week. Held weekly lecture on supplemental course material.
- 2015 **Teaching Assistant**, University of California, Santa Cruz.
Research and Teaching in Computer Science and Engineering (Fall 2015)
Taught incoming graduate students from diverse backgrounds the principles of academic life. Gave talks on how to apply for grants and how to be a capable Teaching Assistant. Reviewed and responded to over 100 fellowship applications.

- 2014-2015 **Improv Workshop Instructor**, University of California, Berkeley.
Improv Du Jour Festival (Spring 2014, Fall 2014, Fall 2015)
 Directed a workshop of college-level improvisers in a performance based on an experimental form of improvisational theatre. Performances of this form have consistently been a festival highlight.
- 2010-2011 **Teaching Assistant**, University of California, Santa Cruz.
Interactive Storytelling (Winter 2010, Winter 2011)
 Worked closely with students to help them master the material. Created 4 guest-lectures based on student need and input. Provided copious and clear feedback on assignments. Held weekly well attended office hours.
- 2007-2008 **Teaching Assistant**, University of California, Santa Cruz.
Introduction to Acting (Fall 2007, Winter 2008)
 Led 100+ student theatre exercises, designed and ran weekly 40+ student sections.
Women in Theatre (Spring 2008)
 Reviewed and consulted on student projects and final assignments.
- 2006-2007 **Modified Supplemental Instruction Tutor**, University of California, Santa Cruz.
Linear Algebra/Differential Equations (Fall 2006)
Introduction to Computer Science (Winter 2007)
 Ran biweekly sections targeted at struggling, but passionate, students. Designed curriculum to help students help each other learn the material.

JOURNAL PUBLICATIONS AND BOOK CHAPTERS

1. Ben Samuel, Dylan Lederle-Ensign, Mike Treanor, Noah Wardrip-Fruin, Josh McCoy, Aaron Reed and Michael Mateas. "Playing the Worlds of Prom Week." *In Narrative Theory, Literature, and New Media: Narrative Minds and Virtual Worlds*, edited by Mari Hatavara, Matti Hyvärinen, Maria Mäkelä, Frans Mäyrä, New York: Routledge. 2016. [Book Chapter].
2. Josh McCoy, Mike Treanor, Ben Samuel, Aaron Reed, Michael Mateas and Noah Wardrip-Fruin. "Social Story Worlds with Comme il Faut." *IEEE Transactions On Computational Intelligence and AI in Games*, vol. 6, no. 2, 2014.

PEER REVIEWED CONFERENCE PUBLICATIONS

1. Max Kreminski, Ben Samuel, Edward Melcer, and Noah Wardrip-Fruin. "Evaluating AI-based games through retellings." *15th AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE 2019)*. Atlanta, Georgia, October 8-12, 2019.
2. Jacob Garbe, Max Kreminski, Ben Samuel, Noah Wardrip-Fruin, and Michael Mateas. "StoryAssembler: An engine for generating dynamic choice-driven narratives." *14th International Conference on the Foundations of Digital Games (FDG 2019)*. San Louis Obispo, California, August 26-30, 2019. [Nominated for Best Paper]
3. Ben Samuel, Aaron Reed, Emily Short, Samantha Heck, Barrie Robison, Landon Wright, Terence Soule, Mike Treanor, Joshua McCoy, Anne Sullivan, Alireza Shirvani, Edward Garcia, Rachelyn Farrell, Stephen Ware, Katherine Compton. "Playable Experiences at AIIDE 2018." *14th AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE 2018)*. Alberta, Canada, November 13-17, 2018.
4. Adam Summerville, Chris Martens, Ben Samuel, Joseph Osborn, Noah Wardrip-Fruin, Michael Mateas. "Gemini: Bidirectional Generation and Analysis of Games via ASP." *14th AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE 2018)*. Alberta, Canada, November 13-17, 2018.
5. Ben Samuel, James Ryan, Adam Summerville, Michael Mateas and Noah Wardrip-Fruin. "Bad News: An

- Experiment in Computationally Assisted Performance.” *9th International Conference on Interactive Digital Storytelling (2016)*. Los Angeles, California, November 15-18, 2016.
6. Ben Samuel, Michael Mateas and Noah Wardrip-Fruin. “The Design of *Writing Buddy*: A Mixed-Initiative Approach Towards Computational Story Collaboration” *9th International Conference on Interactive Digital Storytelling (2016)*. Los Angeles, California, November 15-18, 2016.
 7. Alexander Zook, Michael Cook, Eric Butler, Kristin Siu, Matthew Guzdial, Mark Riedl, James Ryan, Ben Samuel, Adam Summerville, Michael Mateas, and Noah Wardrip-Fruin. “Playable Experiences at AIIDE 2016.” *12th AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE 2016)*. Burlingame, California, October 8-12, 2016.
 8. James O. Ryan, Adam Summerville, and Ben Samuel. “Bad News: A Game of Death and Communication.” *33rd Annual ACM Conference on Human Factors in Computing Systems (CHI 2016)*, San Jose, California, May 7-12, 2016.
 9. Joseph C. Osborn, Ben Samuel, Michael Mateas and Noah Wardrip-Fruin. “Playspecs: Regular Expressions for Game Play Traces.” *In Proceedings of the Eleventh AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE 2015)*, Santa Cruz, California, November 14-18, 2015.
 10. Ben Samuel, Aaron A. Reed, Paul Maddaloni, Michael Mateas, and Noah Wardrip-Fruin. “The Ensemble Engine: Next-Generation Social Physics.” *In Proceedings of the Tenth International Conference on the Foundations of Digital Games (FDG 2015)*, Monterey, California, June 22-25, 2015.
 11. Joseph C. Osborn, Ben Samuel, Josh McCoy and Michael Mateas. “Evaluating Play Trace (Dis)similarity Metrics.” *In Proceedings of the Tenth AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE 2014)*, Raleigh, North Carolina, October 3-7, 2014.
 12. Ben Samuel, Josh McCoy, Mike Treanor, Aaron Reed, Michael Mateas and Noah Wardrip-Fruin. “Introducing Story Sampling: Preliminary Results of a New Interactive Narrative Evaluation Technique.” *In Proceedings of the Ninth International Conference on the Foundations of Digital Games (FDG 2014)*, Ft. Lauderdale, Florida, April 3-7, 2014.
 13. Daniel Shapiro, Josh McCoy, April Grow, Ben Samuel, Andrew Stern, Reid Swanson, Mike Treanor, and Michael Mateas. “Creating Playable Social Experiences through Whole-Body Interaction with Virtual Characters.” *in Proceedings of the Ninth AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE 2013)*, Boston, Massachusetts, October 14-18, 2013.
 14. Josh McCoy, Mike Treanor, Ben Samuel, Aaron Reed, Michael Mateas and Noah Wardrip-Fruin. “Prom Week: Designing past the game/story dilemma.” *In Proceedings of the 8th International Conference on the Foundations of Digital Games (FDG 2013)*, Chania, Crete, Greece, May 14-17, 2013, pp. 94-101.
 15. Josh McCoy, Mike Treanor, Ben Samuel, Aaron Reed, Michael Mateas and Noah Wardrip-Fruin. “Comme il Faut: A System for Authoring Playable Social Models.” *In Proceedings of the Seventh AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE 2011)*, Palo Alto, California, October 12-14, 2011.
 16. Aaron Reed, Ben Samuel, Anne Sullivan, Ricky Grant, April Grow, Justin Lazaro, Jennifer Mahal, Sri Kurniawan, Marilyn Walker and Noah Wardrip-Fruin. “A Step Towards the Future of Role-Playing Games: The SpyFeet Mobile RPG Project.” *In Proceedings of the Seventh AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE 2011)*, Palo Alto, California, October 12-14, 2011.
 17. Josh McCoy, Mike Treanor, Ben Samuel, Aaron Reed, Michael Mateas and Noah Wardrip-Fruin. “Prom Week: Social Physics as Gameplay.” *In Proceedings of the Sixth International Conference on the Foundations of Digital Games (FDG 2011)*, Bordeaux, France, June 29-July 1, 2011, pp. 319-321.

18. Aaron A. Reed, Ben Samuel, Anne Sullivan, Ricky Grant, April Grow, Justin Lazaro, Jennifer Mahal, Sri Kurniawan, Marilyn Walker and Noah Wardrip-Fruin. "SpyFeet: An Exercise RPG." *In Proceedings of the Sixth International Conference on the Foundations of Digital Games (FDG 2011)*, Bordeaux, France, June 29 -July 1, 2011.
19. Josh McCoy, Mike Treanor, Ben Samuel, Aaron Reed, Michael Mateas and Noah Wardrip-Fruin. "Authoring Game-based Interactive Narrative using Social Games and Comme il Faut." *In Proceedings of the 4th International Conference & Festival of the Electronic Literature Organization: Archive & Innovate (ELO 2010)*, Providence, Rhode Island, USA, June 3-6, 2010.

WORKSHOP AND SYMPOSIUM PUBLICATIONS

1. Joseph C. Osborn, Ben Samuel, Adam Summerville, Michael Mateas and Noah Wardrip-Fruin. "Towards General RPG Playing." *4th Workshop on Experimental AI in Games (EXAG4)*, co-located with the *2017 Artificial Intelligence in Interactive Digital Entertainment Conference*, Snowbird Ski Resort, Utah, USA October 5-6 2017.
2. Ben Samuel, Jacob Garbe, Adam Summerville, Jill Denner, Sarah Harmon, Gina Lepore, Michael Mateas and Noah Wardrip-Fruin. "Leveraging Procedural Narrative and Gameplay to Address Controversial Topics." *Workshop on Computational Creativity and Social Justice*, co-located with the *2017 International Conference on Computational Creativity*, Atlanta, Georgia, USA June 20, 2017.
3. Ben Samuel, James Ryan, Adam Summerville, Michael Mateas, and Noah Wardrip-Fruin. "Computatrum Personae: Toward a Role-Based Taxonomy of (Computationally Assisted) Performance." *3rd Workshop on Experimental AI in Games (EXAG 2016)*, co-located with the *2016 Artificial Intelligence in Interactive Digital Entertainment Conference*, San Francisco, California, 2016.
4. James Owen Ryan, Ben Samuel, Adam Summerville and Jonathan Lessard. "Bad News: A Computationally Assisted Live-Action Prototype to Guide Content Creation." *Second Workshop on Experimental AI in Games (EXAG 2015)*, co-located with the *2015 AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment*, Santa Cruz, California, November 14, 2015. [demo].
5. Christopher Antoun, Matthew Antoun, James Owen Ryan, Ben Samuel, Reid Swanson and Marilyn A Walker. "Generating Natural Language Retellings from Prom Week Play Traces." *In Proceedings of the Sixth Workshop on Procedural Content Generation in Games (PCGames 2015)*, co-located with the *2015 Foundations of Digital Games Conference*, Monterey, California, June 23, 2015.
6. Ben Samuel. "What Comes Next? An Experiment in Interactive Narrative." *Doctoral Consortium at the Seventh AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE 2013)*, Boston, Massachusetts, October 14-18, 2013.
7. Josh McCoy, Mike Treanor, Ben Samuel, Brandon Tearse, Michael Mateas, Noah Wardrip-Fruin. "Comme il Faut 2: A Fully Realized Model for Socially-Oriented Gameplay." *In Proceedings of the Intelligent Narrative Technologies III Workshop (INT3 2010)*, co-located with the *2010 Foundations of Digital Games Conference*, Monterey, California, June 18, 2010.

DEMONSTRATIONS, GUEST LECTURES, AND PANEL APPEARANCES

1. Ben Samuel. "The Challenges and Triumphs of Applying Social Physics to the Eighteenth Century." St. Louis, Missouri. March 21, 2020. [panel] [Cancelled due to COVID-19]
2. Ben Samuel. "Social Physics Rule Authoring Workshop." Baton Rouge, Louisiana, part of LSU FREN 7032 Graduate Seminar. March 5, April 9, April 16, April 23, 2020. [invited talk]
3. Ben Samuel, "Ensemble and Camelot: Two Great Tastes that (Will Eventually) Taste Great Together." Georgia Tech. Atlanta, Georgia. Part of the AAAI conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE 2019). October 9, 2019. [demo and invited talk]

4. Ben Samuel. "Artificial Intelligence with Mixed Reality." Naval Information Warfare Center Atlantic (formerly SPAWAR), New Orleans, Louisiana. April 3, 2019. [invited talk]
5. Ben Samuel. "Social Physics Workshop." Nantes, France. March 6-9, 2019. [invited talk]
6. Ben Samuel, James Owen Ryan, Adam Summerville. "Bad News at Northwestern University." Northwestern University. Evanston, Illinois. February 22, 2019. [performance and invited talk]
7. Ben Samuel, James Owen Ryan, Adam Summerville. "Bad News at the University of Chicago". University of Chicago, Chicago Center for Contemporary Theory. Chicago, Illinois. February 21, 2019. [performance and invited talk]
8. Ben Samuel. "Guest Lecture for ECS170: Artificial Intelligence at UC Davis." Davis, California. December 20, 2018. [invited talk] [remote]
9. Ben Samuel. "Social Physics Workshop." Nantes, France. December 14-21, 2018. [invited talk]
10. Ben Samuel, Aaron A. Reed, Edward T. Garcia, Kate Compton, Terence Soule, Josh McCoy. "Playable Experiences at AIIDE 2018." University of Alberta. Edmonton, Canada. November 16th, 2018. [panel moderator]
11. Ben Samuel. "Knowledge Extraction, Representation, and Presentation in (two) Games". *Knowledge Extraction from Games Workshop, Held at the Thirty-Second AAAI Conference on Artificial Intelligence (AAAI-18)*. New Orleans, Louisiana. February 2nd, 2018. [invited keynote]
12. Ben Samuel. "Social Physics". *Guest Lecture at Louisiana State University*. Baton Rouge, Louisiana. January 25th, 2018. [guest lecture]
13. Ben Samuel, James Owen Ryan, Adam Summerville. "Bad News at Piano Fight". *Piano Fight theatre*. San Francisco, California. December 28th, 2017. [demo]
14. Ben Samuel. "Crafting Stories Through Play". *New Orleans Gamedev Meetup* New Orleans, Louisiana. October 19th, 2017. [guest lecture]
15. Ben Samuel, James Owen Ryan, Adam Summerville. "Q&A with the Creators of Bad News". EECS 396, 496: Special Topics in Game AI (Prof. Ian Horswill). Northwestern University. Evanston, Illinois (remotely via Santa Cruz, California). May 31, 2017. [invited talk]
16. James Owen Ryan, Ben Samuel. "Bad News" *Université de Montréal*, Montreal, Quebec, Canada, March 22, 2017. [demo]
17. James Owen Ryan, Ben Samuel. "Bad News" *Concordia University*, Montreal, Quebec, Canada, March 22, 2017. [demo]
18. Ben Samuel, James Owen Ryan, Adam Summerville. "Bad News" *San Francisco Museum of Modern Art*, San Francisco, California, March 2, 2017. [demo]
19. Ben Samuel. "Social Physics, Ensemble, and You!" *Guest lecture in UCSC's Computational Media Applications course*, Santa Cruz, California, February 23, 2017. [guest lecture]
20. James Owen Ryan, Ben Samuel, Adam Summerville. "Bad News" *Slamdance*, Park City, Utah, January 20-26, 2017. [demo]
21. James Owen Ryan, Ben Samuel, Adam Summerville. "Bad News" *Slamdance DIG showcase*, Los Angeles, California, December 2-4 and December 10, 2016. [demo]
22. Ben Samuel, James Owen Ryan, Adam Summerville. "Bad News" *IndieCade*, University of Southern California, October 14-16 2016. [demo]

23. Alexander Zook, Michael Cook, Eric Butler, Kristin Siu, Matthew Guzdial, Mark Riedl, James Ryan, Ben Samuel, Adam Summerville, Michael Mateas, and Noah Wardrip-Fruin. "Playable Experiences at AIIDE 2016." *12th AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE 2016)*, San Francisco, California, October 11, 2016. [demo]
24. Ben Samuel, James Owen Ryan. "Bad News" *Come Out and Play Festival*, San Francisco, California, September 30, 2016. [demo]
25. James Owen Ryan, Ben Samuel. "Bad News" *Roguelike Celebration*, San Francisco, California, September 17, 2016. [demo]
26. Ben Samuel. "Social Physics, Ensemble, and You!" *Guest lecture in UCSC's Interactive Storytelling course*, Santa Cruz, California, May 17, 2016. [guest lecture]
27. Josh McCoy, Mike Treanor, Anne Sullivan, Aaron A. Reed and Ben Samuel. "Ensemble Tool" *Second Workshop on Experimental AI in Games (EXAG 2015)*, co-located with the 2015 AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment, Santa Cruz, California, November 15, 2015. [demo].
28. James Owen Ryan, Ben Samuel, Adam Summerville and Jonathan Lessard. "Bad News: A Computationally Assisted Live-Action Prototype to Guide Content Creation." *Second Workshop on Experimental AI in Games (EXAG 2015)*, co-located with the 2015 AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment, Santa Cruz, California, November 14, 2015. [demo].
29. Ben Samuel. "Social Physics, Ensemble, and You!" *Guest lecture in UCSC's Interactive Storytelling course*, Santa Cruz, California, May 22nd, 2015. [guest lecture]
30. Ben Samuel. "Social Physics, Ensemble, and You!" *Guest lecture in UCSC's Foundations of Interactive Game Design course*, Santa Cruz, California, April 27th, 2015. [guest lecture]
31. Josh McCoy, Mike Treanor, Ben Samuel, Aaron A. Reed, Michael Mateas and Noah Wardrip-Fruin. "Prom Week." *Playable Experiences session at the Seventh AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE 2013)*, Boston, Massachusetts, October 14-18, 2013. [demo].
32. Josh McCoy, Mike Treanor, Ben Samuel, Aaron A. Reed, Michael Mateas and Noah Wardrip-Fruin. "Prom Week." *Playable Experiences session at the Seventh AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE 2013)*, Boston, Massachusetts, October 14-18, 2013. [demo].
33. Ben Samuel. "Affect, Theatre, and Expressive Intelligence" *Affect Across the Disciplines Panel*, University of California, Santa Cruz, October 23, 2012 [panel].
34. Ben Samuel. "Inspirations" *IndieCade Inspirations Panel*, Culver City, California, October 5, 2012 [panel].
35. Josh McCoy, Mike Treanor, Ben Samuel, Brandom Tarse, Michael Mateas and Noah Wardrip Fruin. "The Prom: An Example of Socially-Oriented Gameplay." *Fourth AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE 2010)*, Palo Alto, California, October 11-13, 2010 [demo].

HONORS, AWARDS, AND GRANT PROPOSALS

- 2019. Best Paper Nomination for *StoryAssembler: An engine for generating dynamic choice-driven narratives*. at 14th International Conference on the Foundations of Digital Games (FDG 2019).
- 2019. NSF Cyber Human Systems Small Grant "Collaborative Research: CHS:Small: Sharing Narrative Authorship in Interactive Environments" (Co-PI with Stephen Ware). [PENDING REVIEW].
- 2019. NSF Computer and Information Science and Engineering Research Initiation Initiative (CRII) "CRII: CHS: Recognizing Authorial Ownership in Simulated Story Worlds." [PROPOSAL UNFUNDED].
- 2019. Louisiana Board of Regents Research Competitiveness Subprogram (RCS). "Measuring Shared Authorship in Interactive Story Worlds" [Ranked "Priority One" but not recommended for funding] [PROPOSAL UN-

FUNDED].

- 2019. Travel grant awarded from the Louisiana NASA EPSCoR program to visit NASA in Pasadena, California.
- 2019. National Endowment for the Humanities Digital Humanities Advancement Grant Program. “Interactive VR Simulation of an Eighteenth-Century Paris Fair Theatre: VESPACE NEH Digital Humanities Advancement Grant – Level II.” (Proposal submitted by Dr. Jeff Leichman at Louisiana State University, I was a research and writing collaborator). [Total Funding: \$93,000].
- 2019. American Council of Learned Societies Digital Extension Grant. “Extending Social Physics to Historical Behavioral Modeling in VESPACE” (Written with Dr. Jeff Leichman at Louisiana State University). [PROPOSAL UNFUNDED].
- 2018. Travel grant awarded from the Louisiana Board of Regents to visit the National Science Foundation.
- 2018. NSF Cyber Human Systems Small Grant “CHS:Small: Sharing Authorship between People and Agents in Interactive Virtual Worlds” (Co-PI with Stephen Ware). [PROPOSAL UNFUNDED].
- 2018. Louisiana Board of Regents Research Competitiveness Subprogram (RCS). “Skill and Empathy Building Through Interactive Storytelling” [PROPOSAL UNFUNDED].
- 2017. Louisiana Board of Regents Research Competitiveness Subprogram (RCS). “Recognizing Narrative Patterns in Simulated Worlds” [Ranked “Priority One” and “Recommended for Funding”] [PROPOSAL UNFUNDED].
- 2017. NSF Cyber Human Systems Small Grant “CHS:Medium: Sharing Authorship between People and Agents in Interactive Virtual Worlds” (Co-PI with Stephen Ware). [PROPOSAL UNFUNDED].
- 2016. *Bad News* wins IndieCade Audience Choice award (10 total winners out of roughly 1,000 submissions).
- 2016. *Séance* is a finalist at the IndieCade festival of independent games (33 finalists out of roughly 1,000 submissions).
- 2016. *Bad News* wins 33rd Annual ACM Conference on Human Factors in Computing Systems Student Game Competition in the category of Innovative Game Design.
- 2013. My performance in *Battleground* is recognized with a Streamy nomination for Best Male Performance in a Drama.
- 2012. *Prom Week* wins AiGameDev.com’s Editor’s Pick of Best AI in an Independent Game.
- 2012. *Prom Week* is a finalist at the IndieCade festival of independent games (33 finalists out of roughly 400 submissions).
- 2012. *Prom Week* is the winner of the Intelligent Virtual Agents’ Gathering of Lifelike Agents demo and video festival.
- 2012. *Prom Week* is featured in the IndieCade E3 Showcase.
- 2012. *Prom Week* is a Main Competition finalist in Technical Excellence at the Independent Games Festival.
- 2010. Earned the National Science Foundation Graduate Research Fellowship Program (NSF GRFP) Grant. [Total funds \$100,000]
- 2007. Graduated with Highest Honors in Computer Science from the University of California, Santa Cruz.

INTERNAL SERVICE TO THE UNIVERSITY OF NEW ORLEANS

Committees

- I have served on the Undergraduate Research and Creativity Council since Fall of 2018. The goal of this program is to create opportunities for—and disseminate information about—opportunities for undergraduate students interested in pursuing scholarship beyond the classroom. This takes the form of conducting research (such as through the PURSUE and COSURP programs), engaging in creative works, and through taking part in demonstrative showcases such as Innovate UNO.
- I was on the Faculty Affairs Committee for 2019-2020. My duties for this included reading applications from potential new hires for two assistant professor positions, and conferring with fellow committee members to determine who to reach out for a phone interview. I (and my fellow Faculty Affairs Committee members) conducted dozens of phone interviews. I also helped coordinate logistics for inviting our top choices to visit the University of New Orleans for on site interviews (or, when covid-19 made travel impossible, helped arrange remote phone interviews over Zoom teleconferencing software).
- I was on the Undergraduate Studies Committee for 2019-2020. Although not strictly part of the duties of this committee, I have attended every “Explore UNO” and “Get to Know UNO” event. These are events designed to advertise the University of New Orleans to prospective high school students considering attending when they

graduate. I have gone as a representative of the Computer Science department and the Game Design Concentration.

Student Mentorship

- Overseeing two PhD Students: Daniel DeKerlegand and Edward Garcia
- Faculty Mentor for the Tolmas Scholars Program (COSURP and PURSUE). Have overseen the work of four undergraduates through this program: Isabella Wilkie, Brittany Bergeron, Dang Pham, and Jeremy Chung.
- Overseeing the work of two Masters students: Stephen Marcell, Seraphina Chastity Courtney.
- On committee for Jerod Dunbar's defense of his master's thesis (defense held 10/14/2019).
- On committee for Edward Garcia's defense of his master's thesis (defense held 6/6/2019).
- On committee for Jean-Paul Jeunesse's Undergraduate Honors thesis defense (defense held 4/12/2019).
- Mentoring undergraduate scholars: Extell Farve, Mikolas Slama, and William McMahon.

Student Clubs

- Became faculty advisor for the UNO chapter of the International Game Developers Association (IGDA) in January 2020. Prior to my taking this role, the club had essentially fallen into an extended hiatus, and had no club meetings for approximately a year. After the revitalization, we had forty students initially express interest; approximately twenty students came regularly to weekly meetings. Started operating remotely due to covid-19 in March 2020.
- Became faculty advisor for Blue Beard Gaming, a student organization focusing on nurturing a competitive E-Sports community, in Fall 2019.

RESEARCH PROJECTS

VESPACE

The VESPACE project is a research collaboration between the University of New Orleans, Louisiana State University, and the University of Nantes. It combines the diverse talents of scholars across the globe and across the fields of computer science, the digital humanities, French studies, theatre, architecture, and history. The goal of the VESPACE project is to recreate an 18th century Parisian Saint-Germain Fair theatre in Virtual Reality on three levels: architecturally, aurally, and socially. The aim is to explore the use of artificial intelligence-based video game technology to test hypotheses about the relationship of performance and sociability in both the eighteenth and twenty-first centuries, as well as to re-conceive how research on cultural history, performance, and philology are disseminated in the digital age. More information can be found at <http://vespace.univ-nantes.fr/>.

Ownership Game (working title)

This work-in-progress is a combination game and tool which seeks to assist users in creating and sharing their own works of narrative. In it, players place characters in a sequence of comic strip like panels to create a story. By leveraging the social physics of the Ensemble Engine (see below), actions taken between characters in earlier panels will have rippling consequences throughout the story. Since players have access to any panel at any time, changing earlier panels can render later panels incoherent. Rather than forbidding this behavior, the game encourages such experimentation, splitting the world into a parallel timeline, revealing 'what might have been.' which the user can then choose to work on simultaneously. In addition to creating stories, the game has hooks into the Ensemble Engine itself, allowing players to dynamically change the social rules of the system in real time, if they so choose. Drama Management capabilities detect the kind of story the user is creating, and offers suggestions based on what it determines to be most narratively satisfying. The goal for this tool is to give players the ability to create stories of which they are proud; its playful nature is meant to combat the 'blank canvas' problem that can make starting creative pursuits in the first place so difficult; a writing buddy who lives in your computer.

The Ensemble Engine

The Ensemble Engine, like its predecessor Comme il Faut (CiF, see below) before it, is a social AI system. It allows users to specify rules and actions that govern social behavior in storyworlds. Also like CiF, it has support for 'social physics,' enabling actions of characters to indirectly give rise to new social state. Its design was directly

inspired by CiF, and the lessons learned while creating that first system. As such, the Ensemble Engine enables the authoring of more fine-tuned rules and character actions, and is completely domain agnostic. Moreover, the Ensemble Engine comes bundled with an authoring tool to enable players to author the social rules that make up the world. I was on the Ensemble Engine from the beginning, using my expert knowledge of CiF—gained from both developing it and using it—to help drive the design of this next generation of social AI.

Bad News

Mixing social simulation and improvisational theatre in a piece of computationally assisted performance, a game of Bad News begins by simulating over a hundred years of history of a fictional small town. During this simulation, the townsfolk grow up, get jobs, get married, have kids, and more based on models of personality and actual historical census data. All the while, they are propagating information about their beliefs of the world; as they interact with each other, they share their mental models of their fellow townsfolk, such as what they look like or where they work. Bad News is a Wizard of Oz experience in which a player is thrown into one of these simulated towns and tasked with finding a specific person—with only a physical description of one of their family members as a clue—by asking questions of the townspeople. The role of every townspeople is portrayed by an actor, who must quickly assimilate the histories, personalities, knowledge and other salient details the simulation has created for any townsfolk approached by the player. After having a verbal conversation, the player follows any clues gleaned from the exchange to find another member of the town to speak with. Bad News has been invited to perform at several conferences, festivals, and showcases, and has won multiple awards, including the IndieCade 2016 Audience Choice award. In addition to being a designer of the game, I have had the good fortune of being the actor in every performance.

Prom Week

Prom Week is a work of interactive narrative and is the first example of a “social physics puzzle game” – an entirely new game genre enabled by playable models of social interaction (see *Comme il Faut*, below). In it, players take control of the social lives of a group of high school students during the week before their senior prom. The students have their own volitions for what they want to do with each other based on their current social context, but by manipulating that context, players can make conditions favorable for the students to achieve their social goals (or, alternatively, utterly ruin them). By leveraging the power of social physics, Prom Week has a state space large enough so that no two players have ever made exactly the same choices, after tens of thousands of plays. Since every player choice is a dramatically charged decision which will affect the social lives of the characters, to explore the system is to create a personal piece of dramatic narrative. Prom Week has been recognized in several venues including being a finalist in the Technical Excellence category of the 2012 Independent Games Festival, and a finalist for the IndieCade 2012 games festival. I was lead engineer on the project; designing and programming the game from its conception with a small team.

Comme il Faut

Comme il Faut (CiF) is an artificial intelligence system that implements a playable, authorable model of social interactions between characters in a storyworld. Inspired by dramaturgical analysis, CiF utilizes encoded patterns of social interactions, or social exchanges, in conjunction with an understanding of social and cultural norms to allow characters to both enact performances consistent with the storyworld, and determine what subsequent social moves are appropriate given the history and relationships of individual characters and the cast as a whole. Incorporation of CiF into video games and interactive narratives is meant to provide playable social interaction, the first major use case of CiF in this fashion is the game Prom Week. It also provided the foundation for the Ensemble Engine. The original version of CiF was spearheaded by Josh McCoy, but the system underwent iterative evolution as it was developed in tandem with Prom Week. I contributed to the design and implementation of CiF throughout its development.

IMMERSE

IMMERSE is a project funded under the DARPA Strategic Social Interaction Modules program. The goal of the project is to produce a game-based training environment that teaches players “good stranger” techniques, via practicing the skills necessary to have successful social interactions in unfamiliar languages and contexts. As the game simulates being placed in a culture with which the player has little experience, the primary means of

interacting with the system is through full body movements such as waving and bowing. Speech recognition detects the tenor and cadence of the player's voice, to determine how calm or agitated they are, if not their actual words. The end result is a system which teaches players how to quickly recognize and navigate the social norms in high-consequence, unfamiliar environments, giving them tools to deescalate high-pressure situations. To drive its autonomous characters and accommodate for dynamic behavior from the user, IMMERSE utilizes both the reactive planner ABL, pioneered in Façade, and takes inspiration from the metaphors of the social simulation system Comme il Faut, the foundation of Prom Week.

SpyFeet

SpyFeet is a mobile Android game which utilizes augmented reality, dynamic quest generation, natural language generation (NLG) and the compelling stories of traditional role playing games to encourage middle school girls to exercise. The player quickly discovers that she has the power to see and converse with animal spirits by using her phone. The spirits give the player quests which must be accomplished in the physical world, using the phone's GPS and accelerometer. As quests are completed, the player earns the trust of the spirits and learns of the circumstances pertaining to a rash of mysterious environmental disasters. Each animal spirit had a distinct personality, realized through the NLG system Personage. When combined with our dynamic quest structure, which represented story events abstractly and allowed them to be re-ordered in response to player choices, multiple paths through the story could be followed with character-believable dialog and a minimal amount of increased authoring work. I worked with both the story team, which designed the story management system and the non-linear story to go with it, as well as the implementation team, getting the game to run on mobile devices.

CONFERENCE AND WORKSHOP ORGANIZATION

1. Program Committee *IEEE Conference on Games (COG2020)*, August 24-27 2020, Osaka, Japan.
2. Program Committee *ACM CHI Conference on Human Factors in Computing Systems (CHI2020)*, April 25-30 2020, Honolulu, Hawaii.
3. Chair; Doctoral Consortium *International Conference on Interactive Digital Storytelling*, November 19-22 2019, Little Cottonwood Canyon, Utah.
4. Program Committee *AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE2019)*, October 8-11 2019, Atlanta, Georgia.
5. Doctoral Consortium Reviewer *AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE2019)*, October 8-11 2019, Atlanta, Georgia.
6. Playable Experience PC Member *AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE2019)*, October 8-11 2019, Atlanta, Georgia.
7. Program Committee *Experimental AI in Games Workshop (EXAG2019)*, October 8-11 2019, Atlanta, Georgia. Co-located with AIIDE2019.
8. Co-organizer; Education in Games Workshop *ACM International Conference on Foundations of Digital Games (FDG 2019)*, August 27 2019, San Louis Obispo, California.
9. Associate Chair; Theoretical Foundations Track *International Conference on Interactive Digital Storytelling*, December 5-8 2018, Dublin, Ireland.
10. Chair; Playable Experience Track *AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE'18)*, November 13-17 2018, Edmonton, Canada.
11. Program Committee *Social Believability in Games Workshop (SBG2018)*, August 7 2018, Malmo, Sweden. Co-located with FDG 2018.

12. Art Selection Juror *International Conference on Interactive Digital Storytelling*, November 14-17 2017, Funchal, Madeira, Portugal.
13. Program Committee *Experimental AI in Games Workshop (EXAG4)*, October 5-6 2017, Snowbird Ski Resort, Utah. Co-located with AIIDE 2017.
14. Program Committee *AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE'17) Research Track*, October 5-9 2017, Snowbird Ski Resort, Utah.
15. Program Committee *NPC Workshop*, August 14-17 2017, Cape Cod, Massachusetts. Co-located with FDG 2017.
16. Program Committee *ACM International Conference on Foundations of Digital Games (FDG2017) AI Track*, August 14-17 2017, Cape Cod, Massachusetts.
17. Program Committee *ACM International Conference on Foundations of Digital Games (FDG2017) Poster Track*, August 14-17 2017, Cape Cod, Massachusetts.
18. Program Committee *Social Believability in Games Workshop (SBG2016)*, August 1 2016, Dundee, Scotland. Co-located with Digra/FDG 2016.
19. Program Committee *Social Believability in Games Workshop (SBG2014)*, April 4 2014, Ft. Lauderdale, Florida. Co-located with FDG 2014.
20. Program Committee *Social Believability in Games Workshop (SBG2013)* November 12 2013, Enschede. Netherlands. Co-located with ACE2013.

JOURNAL AND FESTIVAL REVIEWS

I have performed reviews of several articles for the Transactions on Computational Intelligence and AI in Games (TCI-AIG), an IEEE journal.

I have been a juror for the IndieCade Festival of Independent Games from 2013-2020

PROFESSIONAL ORGANIZATIONS

Association for the Advancement of Artificial Intelligence (AAAI)

PRESS

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- Wardrip-Fruin, Noah and Mateas, Michael. "The future is in interactive storytelling" The Conversation. May 4th, 2017. [link]
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