

# RACHEL FARRELL

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## INTERESTS

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- Artificial Intelligence
- Intelligent Narrative Systems
- Multi-Agent Systems
- Planning
- Computational Creativity
- Computational Cognitive Science
- Computational Linguistics
- Formal Logic
- Interactive Narrative
- Games

## EXPERIENCE

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- Jan 2023 – Present      Research Scientist  
Narrative Intelligence Lab  
University of Kentucky, Dept. of Computer Science  
Lexington, KY
- Aug 2015 – Dec 2022      Research Assistant  
Narrative Intelligence Lab  
University of Kentucky, Dept. of Computer Science  
Lexington, KY  
(Aug 2019 – Dec 2022)  
University of New Orleans, Dept. of Computer Science  
New Orleans, LA  
(Aug 2015 – Jul 2019)
- Aug 2014 – Jul 2015      Research Assistant  
Greater New Orleans Center for Information Assurance  
University of New Orleans, Dept. of Computer Science  
New Orleans, LA
- Jun 2011 – Aug 2011      Assistant Network Administrator  
University of Mississippi, Dept. of Computer Science  
Oxford, MS
- Aug 2010 – May 2011      Teaching Assistant  
University of Mississippi, Dept. of Computer Science  
Oxford, MS

## EDUCATION

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- Aug 2017 –  
Dec 2022      Doctor of Philosophy in Computer Science  
Lexington, KY, University of Kentucky
- Dissertation: *Don't Give Me That Story! – A Human-Centered Framework for Usable Narrative Planning*
  - Advisor: Professor Stephen G. Ware
- Aug 2014 –  
May 2017      Master of Science in Computer Science  
New Orleans, LA, University of New Orleans
- Thesis: *Predicting User Choices in Interactive Narratives using Indexer's Pairwise Event Saliency Hypothesis*
  - Advisor: Professor Stephen G. Ware
- Aug 2008 –  
May 2012      Bachelor of Science in Computer Science  
Oxford, MS, University of Mississippi
- Summa Cum Laude
  - Minor in Linguistics

## PUBLICATIONS

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Manuscripts are available at: <http://cs.uky.edu/~rfa237>

### Journal Publications

1. Stephen G. Ware, Edward Garcia, Mira Fisher, Alireza Shirvani, and **Rachelyn Farrell**. "Multi-Agent Narrative Experience Management as Story Graph Pruning". In *IEEE Transactions on Games*, 2022. doi: 10.1109/TG.2022.3177125. (forthcoming)
2. **Rachelyn Farrell**, Stephen G. Ware, and Lewis J. Baker. "Manipulating Narrative Saliency in Interactive Stories using Indexer's Pairwise Event Saliency Hypothesis". In *IEEE Transactions on Games*, vol. 12, no. 1, pp. 74-85, March 2020.

### Conference Publications

3. **Rachelyn Farrell**, Mira Fisher, and Stephen G. Ware. "Saliency Vectors for Measuring Distance between Stories". In *Proceedings of the 18<sup>th</sup> AAAI International Conference on Artificial Intelligence and Interactive Digital Entertainment*, pp. 95-104, 2022.
4. Stephen G. Ware and **Rachelyn Farrell**. "Saliency as a Narrative Planning Step Cost Function". In *Proceedings of the IEEE Conference on Games*, pp. 433-440, 2022.
5. **Rachelyn Farrell** and Stephen G. Ware. "Narrative Planning for Belief and Intention Recognition". In *Proceedings of the 16<sup>th</sup> AAAI International Conference on Artificial Intelligence and Interactive Digital Entertainment*, pp. 52-58, 2020.

6. Stephen G. Ware, Edward T. Garcia, Alireza Shirvani, and **Rachelyn Farrell**. "Multi-Agent Narrative Experience Management as Story Graph Pruning". In *Proceedings of the 15<sup>th</sup> AAAI International Conference on Artificial Intelligence and Interactive Digital Entertainment*, pp. 87-93, 2019.
7. Alireza Shirvani, **Rachelyn Farrell**, and Stephen G. Ware. "Combining Intentionality and Belief: Revisiting Believable Character Plans". In *Proceedings of the 14<sup>th</sup> AAAI International Conference on Artificial Intelligence and Interactive Digital Entertainment*, pp. 222-228, 2018.
8. Alireza Shirvani, Stephen G. Ware, and **Rachelyn Farrell**. "A Possible Worlds Model of Belief for State-Space Narrative Planning". In *Proceedings of the 13<sup>th</sup> AAAI International Conference on Artificial Intelligence and Interactive Digital Entertainment*, pp. 101-107, 2017.
9. **Rachelyn Farrell** and Stephen G. Ware. "Causal Link Semantics for Narrative Planning using Numeric Fluents". In *Proceedings of the 13<sup>th</sup> AAAI International Conference on Artificial Intelligence and Interactive Digital Entertainment*, pp. 193-199, 2017.
10. **Rachelyn Farrell** and Stephen G. Ware. "Influencing User Choices in Interactive Narratives using Indexter's Pairwise Event Saliency Hypothesis". In *Proceedings of the 13<sup>th</sup> International Conference on Artificial Intelligence and Interactive Digital Entertainment*, pp. 37-42, 2017.
11. **Rachelyn Farrell** and Stephen G. Ware. "Predicting User Choices in Interactive Narratives using Indexter's Pairwise Event Saliency Hypothesis". In *Proceedings of the 9<sup>th</sup> International Conference on Interactive Digital Storytelling*, pp. 147-155, 2016.
12. **Rachelyn Farrell**, Scott Robertson, and Stephen G. Ware. "Asking Hypothetical Questions about Stories using QUEST". In *Proceedings of the 9<sup>th</sup> International Conference on Interactive Digital Storytelling*, pp. 136-146, 2016.
13. **Rachelyn Farrell** and Stephen G. Ware. "Fast and Diverse Narrative Planning through Novelty Pruning". In *Proceedings of the 12<sup>th</sup> International Conference on Artificial Intelligence and Interactive Digital Entertainment*, pp. 37-43, 2016.

#### Symposium and Consortium Papers

14. **Rachelyn Farrell**. "Experience Management with Beliefs, Desires, and Intentions for Virtual Agents". In *Proceedings of the 14<sup>th</sup> AAAI International Conference on Artificial Intelligence and Interactive Digital Entertainment*, pp. 290-292, 2018. (doctoral consortium abstract)

#### Demonstrations

15. Ben Samuel, Aaron Reed, Emily Short, Samantha Heck, Barrie Robison, Landon Wright, Terence Soule, Mike Treanor, Joshua McCoy, Anne Sullivan, Alireza Shirvani, Edward T. Garcia, **Rachelyn Farrell**, Stephen Ware, Katherine Compton. "Playable Experiences at AIIDE 2018". In *Proceedings of the 14<sup>th</sup> AAAI International Conference on Artificial Intelligence and Interactive Digital Entertainment*, pp. 275-280, 2018.

## PROFESSIONAL SERVICE

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### Conference Program Committee

- AIIDE 2022: 18<sup>th</sup> AAAI International Conference on Artificial Intelligence and Interactive Digital Entertainment, Pomona, CA, October 2022 – Artifact Evaluation Track
- AIIDE 2021: 17<sup>th</sup> AAAI International Conference on Artificial Intelligence and Interactive Digital Entertainment, Virtual, October 2021 – Artifact Evaluation Track
- AIIDE 2020: 16<sup>th</sup> AAAI International Conference on Artificial Intelligence and Interactive Digital Entertainment, Virtual, October 2020 – Research Track
- FDG 2020: 15<sup>th</sup> International Conference on the Foundations of Digital Games, Malta, September 2020 – Game AI track
- ICIDS 2019: 12<sup>th</sup> International Conference on Interactive Digital Storytelling, Snowbird, UT, November 2019 – Technologies track
  - Session Chair: *Authorship: Processes*

## TEACHING EXPERIENCE

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### Lab Instructor

Fall 2010,            CSCI 112: Java Programming 2  
Spring 2011        University of Mississippi, Dept. of Computer Science

### Guest Lectures

October 2019      *Play Schemas: Games as Narrative Play; as the Play of Simulation; and as Social Play*  
CSCI 485: Intro to Game Development  
University of Kentucky, Dept. of Computer Science

September        *Play Schemas: Games as the Play of Meaning*  
2018                CSCI 4670/5670: Fundamentals of Game Development  
University of New Orleans, Dept. of Computer Science

March 2016        *Lisp Programming*  
CSCI 4525/5525: Introduction to Artificial Intelligence  
University of New Orleans, Dept. of Computer Science

January 2016      *Adversarial Search*  
CSCI 4525/5525: Introduction to Artificial Intelligence  
University of New Orleans, Dept. of Computer Science

## AWARDS AND HONORS

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Spring 2021	Thaddeus B. Curtz Memorial Scholarship University of Kentucky
Fall 2019	Computer Science 50 <sup>th</sup> Anniversary 1-year Fellowship University of Kentucky
Fall 2014	Privateer Graduate Scholarship Award University of New Orleans
Spring 2012	Outstanding Computer and Information Science Senior Award University of Mississippi
Spring 2011	Outstanding Computer and Information Science Junior Award University of Mississippi
Fall 2009	Computer Science Fall 2009 SAP Scholarship Award University of Mississippi
Spring 2009	Freshman Student Achievement Award University of Mississippi

## PROFESSIONAL ORGANIZATIONS

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### **Upsilon Pi Epsilon, International Honor Society for the Computing and Information Disciplines**

Vice President, Mississippi Gamma Chapter, 2011-2012

### **Association for Computing Machinery**

Member since 2010