

# John Wesley Hostetter

PH.D. STUDENT · COMPUTER SCIENCE

Raleigh, NC 27606

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## Education

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### North Carolina State University

PH.D. COMPUTER SCIENCE

- Advisor: Dr. Min Chi
- Cumulative GPA: 3.83/4.00

Raleigh, NC, USA

August 2019 - present

### North Carolina State University

M.S. COMPUTER SCIENCE

- Advisor: Dr. Min Chi
- Cumulative GPA: 3.83/4.00

Raleigh, NC, USA

August 2019 - May 2022

### Penn State University

B.S. COMPUTER SCIENCE

- Cumulative GPA: 3.66/4.00

Harrisburg, PA, USA

August 2016 - May 2019

### Embry-Riddle Aeronautical University

COURSEWORK IN ENGINEERING PHYSICS

Daytona Beach, FL, USA

August 2015 - May 2016

## Professional Experience

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- 2021-2023 **Graduate Research Assistant**, North Carolina State University
- 2020 **Graduate Service Assistant**, North Carolina State University
- 2018 **Application Developer Intern**, Global Data Consultants IT Solutions

## Publications

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### PEER-REVIEWED & PUBLISHED

- Hostetter, John Wesley**, M. Abdelshiheed, T. Barnes, and M. Chi, “Leveraging fuzzy logic towards more explainable reinforcement learning-induced pedagogical policies on intelligent tutoring systems,” in *2023 IEEE International Conference on Fuzzy Systems*, IEEE, 2023
- Hostetter, John Wesley** and M. Chi, “Latent space encoding for interpretable fuzzy logic rules in continuous and noisy high-dimensional spaces,” in *2023 IEEE International Conference on Fuzzy Systems*, IEEE, 2023
- Hostetter, John Wesley**, M. Abdelshiheed, T. Barnes, and M. Chi, “A self-organizing neuro-fuzzy q-network: Systematic design with offline hybrid learning,” in *Proceedings of the 22nd International Conference on Autonomous Agents and Multi-agent Systems (AAMAS)*, 2023
- M. Abdelshiheed, **Hostetter, John Wesley**, T. Barnes, and M. Chi, “Leveraging deep reinforcement learning for metacognitive interventions across intelligent tutoring systems,” in *Proceedings of the 24th International Conference on Artificial Intelligence in Education*, Springer International Publishing, 2023
- M. Abdelshiheed, **Hostetter, John Wesley**, T. Barnes, and M. Chi, “Bridging declarative, procedural, and conditional metacognitive knowledge gap using deep reinforcement learning,” in *Proceedings of the 45th annual conference of the cognitive science society*, 2023
- M. Abdelshiheed, **Hostetter, John Wesley**, P. Shabrina, T. Barnes, and M. Chi, “The power of nudging: Exploring three interventions for metacognitive skills instruction across intelligent tutoring systems,” in *Proceedings of the 44th annual conference of the cognitive science society*, vol. 44, 2022
- M. Abdelshiheed, **Hostetter, John Wesley**, X. Yang, T. Barnes, and M. Chi, “Mixing backward-with forward-chaining for metacognitive skill acquisition and transfer,” in *International Conference on Artificial Intelligence in Education*, pp. 546–552, Springer, 2022

## IN REVIEW

**John Hostetter**, Mark Abdelshiheed, Tiffany Barnes and Min Chi. Self-Organizing Computing with Words: Automatic Discovery of Natural Language Control within an Intelligent Tutoring System

**John Hostetter**, Cristina Conati, Xi Yang, Mark Abdelshiheed, Tiffany Barnes and Min Chi. Enhancing Learning Outcomes with Personalized Explanations: An Empirical Study of XAI in Intelligent Tutoring Systems

## Awards, Fellowships, & Grants

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2023	<b>Student Travel Grant</b> , NC State University Computer Science Department	\$ 1,000
2023	<b>AAMAS Student Scholarship</b> , Autonomous Agents and Multiagent Systems Conference	£380
2022	<b>Summer Graduate Fellowship</b> , College of Engineering, North Carolina State University	\$ 3,000
2021	<b>Summer Graduate Merit Award</b> , College of Engineering, North Carolina State University	\$ 3,000
2019	<b>Graduate Student Support Plan</b> , College of Engineering, North Carolina State University	\$ 48,912
2019	<b>Fellowship Graduate Merit Award</b> , College of Engineering, North Carolina State University	\$ 3,000
Spring 2019	<b>Dean's List</b> , College of Science, Penn State Harrisburg	
Spring 2018	<b>Dean's List</b> , College of Science, Penn State Harrisburg	
Spring 2017	<b>Dean's List</b> , College of Science, Penn State Harrisburg	
Fall 2016	<b>Dean's List</b> , College of Science, Penn State Harrisburg	
2015	<b>Dean's Scholarship</b> , Embry-Riddle Aeronautical University Scholarship Committee	\$ 4,000

## Presentations

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*\* presenting author*

(Scheduled for May 29<sup>th</sup> to June 2<sup>nd</sup>) **John Wesley Hostetter\***, Mark Abdelshiheed, Tiffany Barnes, and Min Chi. 2023. A Self-Organizing Neuro-Fuzzy Q-Network: Systematic Design with Offline Hybrid Learning. Conference Presentation: The 22nd International Conference on Autonomous Agents and Multiagent Systems, London, UK.

(March 8<sup>th</sup>) **John Wesley Hostetter\***, Mark Abdelshiheed, Tiffany Barnes, and Min Chi. 2023. A Self-Organizing Neuro-Fuzzy Q-Network: Systematic Design with Offline Hybrid Learning. Practice Conference Presentation: North Carolina State University Computer Science Career Services Center Lunch and Learn Series, Raleigh, NC.

## Teaching Experience

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Winter 2023	<b>Introduction to Artificial Intelligence</b> , Teaching Assistant	<i>AI Academy</i>
Fall 2022	<b>Machine Learning</b> , Teaching Assistant	
Summer 2022	<b>Introduction to Artificial Intelligence</b> , Teaching Assistant	
Fall 2021	<b>CSC 422/522 Automated Learning and Data Analysis</b> , Graduate Teaching Assistant	<i>Raleigh, NC</i>
Fall 2020	<b>CSC 422/522 Automated Learning and Data Analysis</b> , Graduate Teaching Assistant	
Spring 2020	<b>CSC 333 Automata, Grammars, and Computability</b> , Graduate Teaching Assistant	
Fall 2019	<b>CSC 216 Programming Concepts - Java</b> , Graduate Teaching Assistant	

## Outreach & Professional Development

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### SERVICE AND OUTREACH

2023	<b>NC State Computer Science Doctoral Recruiting Day</b> , Co-coordinator	<i>Raleigh, NC</i>
Fall 2021	<b>Disability Resource Office</b> , Exam Scribe	<i>Raleigh, NC</i>
2017-2019	<b>Association for Computing Machinery</b> , Secretary	<i>Harrisburg, PA</i>

### PEER REVIEW

The 13th Symposium on Educational Advances in Artificial Intelligence (EAAI-2023)  
ACM CHI Conference on Human Factors in Computing Systems (CHI-2022)

## TECHNICAL SKILLS

Programming languages: **Python (current)**, Java, C#, C++, C, R, Racket Scheme, JavaScript, HTML, CSS, SQL

Software: Git,  $\text{\LaTeX}$ , IBM SPSS Statistics