

Sebastian S. Rodriguez

Curriculum Vitae

University of Illinois at Urbana-Champaign
Human-Computer Interaction Group
srodri44@illinois.edu
sebas.me

RESEARCH INTERESTS

Human-automation/AI interaction, explainable AI, human factors, machine learning, cognitive science, extended reality, game design and development

EDUCATION

2016 – Present **University of Illinois at Urbana-Champaign**, Urbana, IL

Doctor of Philosophy in Computer Science

Advisor: Alex Kirlik

2012 – 2016 **Northwestern University**, Evanston, IL

Bachelor of Science in Computer Engineering

EXPERIENCE

2021 **Facebook**, Menlo Park, CA

Quantitative UX Research Intern (Host: Daniel Gruner)

Influenced early design decisions of Messenger through large-scale quantitative surveys and data analytics

2018 – 2020 **U.S. DEVCOM Army Research Laboratory**, Aberdeen, MD

Research Fellow (Advisors: Derrik Asher and Erin Zaroukian)

Investigated the effects of complacency and emergent collaboration in heterogeneous teams consisting of humans and autonomous agents [C-2, 3, 4, 5, 6]

2018 **U.S. DEVCOM Army Research Laboratory**, Playa Vista, CA

Research Intern (Host: James Schaffer)

Investigated the effects of complacency in knowledge and judgment for recommendation and game-based systems [C-1]

2016 – 2018 **University of Illinois at Urbana-Champaign**, Urbana, IL

Graduate Research Assistant (Advisor: Alex Kirlik)

Developed an API for devices communicating with a ROS framework which controls aerial drones in coordinated behavior to help elderly users retain independence

2015 – 2016 **Northwestern University**, Evanston, IL

Undergraduate Research Assistant (Advisor: Corey Brady)

Programmed hackable hardware for teaching network topology through participatory simulations in Chicago middle and high schools [J-1]

2015 **Washington State University**, Pullman, WA

Research Experience for Undergraduates Intern (Host: Anurag Srivastava)

Implemented fault and failure detection algorithms for phasor measurement units in smart electric grids

SKILLS

Quantitative Methods: inferential/summary statistics, mediation analysis, regression, machine learning, survey design

Qualitative Methods: user interviews, usability testing

Programming/Frameworks: Python, R, NumPy/pandas, scikit-learn, TensorFlow, C++, C#, Unity, Java, SQL, Hive/Hadoop, git, CI/CD

Languages: English, Spanish (fluent)

PEER-REVIEWED PUBLICATIONS

- C-7 What's This? A Voice and Touch Multimodal Approach for Ambiguity Resolution in Voice Assistants
Lee J., **Rodriguez S.**, Natarajan R., Chen J., Deep H., Kirlik A. (In press)
To appear in International Conference on Multimodal Interaction (ICMI) Conference Proceedings
- C-6 Emergent Heterogeneous Strategies from Homogeneous Capabilities in Multi-Agent Systems
Fernandez R., Zaroukian E., Humann J., Perelman B., Dorothy R., **Rodriguez S.**, Asher D. (2020)
World Congress in Computer Science, Computer Engineering, and Applied Computing (CSCE) Proceedings
- C-5 Multi-Agent Collaboration with Ergodic Spatial Distributions
Asher D., Zaroukian E., Perelman B., Perret J., Fernandez R., Hoffman B., **Rodriguez S.** (2020)
Society of Photo-Optical Instrumentation Engineers (SPIE) Defense + Commercial Sensing Proceedings
- C-4 Measuring Complacency in Humans Interacting with Autonomous Agents in a Multi-Agent System
Rodriguez S., Chen J., Deep H., Lee J., Asher D., and Zaroukian E. (2020)
Society of Photo-Optical Instrumentation Engineers (SPIE) Defense + Commercial Sensing Proceedings
- C-3 Multi-Agent Coordination Profiles Through State Space Perturbations
Asher D., Garber-Barron M., **Rodriguez S.**, Zaroukian E., and Waytowich N. (2019)
International Conference on Computational Science and Computational Intelligence (CSCI) Conference Proceedings
- C-2 Algorithmically Identifying Strategies in Multi-Agent Game-Theoretic Environments
Zaroukian E., **Rodriguez S.**, Barton S., Schaffer J., Perelman B., Waytowich N., Hoffman B., and Asher D. (2019)
Society of Photo-Optical Instrumentation Engineers (SPIE) Defense + Commercial Sensing Proceedings
- C-1 Knowledge Complacency and Decision Support Systems [**Best Paper Award**]
Rodriguez S., Schaffer J., O'Donovan J., and Höllerer T. (2019)
Cognitive and Computational Aspects of Situation Management (CogSIMA) Proceedings

- J-1 All Roads Lead to Computing: Making, Participatory Simulations, and Social Computing as Pathways to Computer Science
Brady C., Weintrop D., Anton G., Orton K., **Rodriguez S.**, and Wilensky U. (2016)
IEEE Transactions on Education Journal

TEACHING EXPERIENCE

SP20, FA20, FA21	CS 225: Data Structures (Head TA) Department of Computer Science, University of Illinois at Urbana-Champaign
SP21	CS 565: Human-Computer Interaction Department of Computer Science, University of Illinois at Urbana-Champaign
SU20	CS 498: Data Visualization Department of Computer Science, University of Illinois at Urbana-Champaign
FA18	CS 498: Experimental Methods of Human Computer Interaction Department of Computer Science, University of Illinois at Urbana-Champaign
SP16	EECS 395: Tangible Interaction Design and Learning Department of Electrical Engineering and Computer Science, Northwestern University
WI16	EECS 330: Human Computer Interaction Department of Electrical Engineering and Computer Science, Northwestern University
FA15	EECS 111: Fundamentals of Computer Programming I Department of Electrical Engineering and Computer Science, Northwestern University
SP15	EECS 214: Data Structures and Data Management Department of Electrical Engineering and Computer Science, Northwestern University

MENTORING

2020	Sarah Shaw UIUC BS student in Computer Science and Statistics
2020	Ziyuan Wei UIUC BS student in Computer Science and Statistics
2019	Jaewook Lee UIUC BS student in Computer Science
2019	Jacqueline Chen UIUC BS student in Computer Science
2019	Harsh Deep UIUC BS student in Computer Science and Statistics
2017	Amber Zhang UIUC BS in Computer Science, 2018
2017	Wyatt McAllister UIUC MS in Electrical and Computer Engineering, 2018 (next: UIUC PhD)
2017	Ambika Dubey UIUC BS in Computer Science, 2018 (next: Microsoft)

AWARDS AND HONORS

2021	Illinois Scholars Undergraduate Research Program Mentor Funding UIUC grant to support an undergraduate research apprentice
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- 2020 **Apple Scholars in AI/ML University Nomination**
Nominated by the Graduate College to represent UIUC at Apple's fellowship competition
- 2020 **Richard Tapia Celebration of Diversity in Computing Travel Grant**
UIUC travel grant to attend the 2020 Tapia Conference
- 2019 **U.S. Army CDC Army Research Laboratory Journeyman Fellowship**
Prestigious 1-year fellowship to conduct dissertation research with ARL
- 2019 **IEEE CogSIMA 2019 Best Paper Award**
Knowledge Complacency and Decision Support Systems [C-1]
- 2018 **UIUC Certificate of Recognition for Academic Excellence**
UIUC award for excellence in research, teaching, or service
- 2016 **UIUC Graduate College Distinguished Fellowship**
UIUC award to support graduate studies with 2 years of funding
- 2016 **Illinois Sloan Scholar, Alfred P. Sloan Foundation's Minority PhD Program**
Merit-based award for incoming minority PhD students

SERVICE

Reviewer	<p><i>Conferences</i></p> <ul style="list-style-type: none"> • ICMI 2021 • CSCW 2021 • CHI 2021 • CHI PLAY 2019, 2020, 2021 • IEEE VR 2021 <p><i>Journals</i></p> <ul style="list-style-type: none"> • Human Factors and Ergonomics Society • Production and Operations Management
Development	<p>Human Factors and Ergonomics Society, Member (2021 – Present)</p> <p>UIUC Chapter</p> <p>Tau Beta Pi Engineering Honor Society, Member (2020 – Present)</p> <p>Illinois Alpha Chapter</p> <p>Society of Hispanic Professional Engineers, Member (2016 – Present)</p> <p>UIUC Chapter</p> <p>Society of Hispanic Professional Engineers, Internal Vice President (2015 – 2016)</p> <p>Society of Hispanic Professional Engineers, Member (2012 – 2015)</p> <p>NU Chapter</p>
Education	<p>UIUC Illinois Scholars Undergraduate Research Program 2021</p> <p>UIUC Computer Science Graduate Ambassador 2016, 2017, 2018</p> <p>Alfred P. Sloan UIUC Mentorship Program 2017</p>
Planning	<p>Alfred P. Sloan UIUC Mini-Conference 2019</p>

Last updated: September 6, 2021