Sebastian S. Rodriguez

Curriculum Vitae

University of Illinois at Urbana-Champaign
Human-Computer Interaction Group
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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. Army CCDC 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. Army CCDC 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.,** Natarrajan 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 Peturbations
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

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 CCDC 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

Conferences

- ICMI 2021
- CSCW 2021
- CHI 2021
- CHI PLAY 2019, 2020, 2021
- IEEE VR 2021

Journals

- Human Factors and Ergonomics Society
- Production and Operations Management

Development

Human Factors and Ergonomics Society, Member (2021 – Present)
UIUC Chapter
Tau Beta Pi Engineering Honor Society, Member (2020 – Present)
Illinois Alpha Chapter
Society of Hispanic Professional Engineers, Member (2016 – Present)
UIUC Chapter
Society of Hispanic Professional Engineers, Internal Vice President (2015 – 2016)
Society of Hispanic Professional Engineers, Member (2012 – 2015)
NU Chapter

Education

UIUC Illinois Scholars Undergraduate Research Program 2021
UIUC Computer Science Graduate Ambassador 2016, 2017, 2018
Alfred P. Sloan UIUC Mentorship Program 2017

Planning

Alfred P. Sloan UIUC Mini-Conference 2019