James Spann · Curriculum Vitae (Updated October, 2024)

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EDUCATION

University of Rochester August 2020 - Present
Ph.D. in Computer Science
Advisor: Dr. Zhen Bai

Rochester Institute of Technology May 2020
Bachelor of Science, Computer Science - *Cum Laude*
Minor: Mathematics
Full Time Research: Fall 2019, Spring 2018

RESEARCH EXPERIENCE

ROCHCI Group - Dr. Zhen Bai June 2020 - Present
University of Rochester, Rochester, NY

- Building novel interfaces for behavior modeling to support language learning (English and American Sign Language) and parent-child interactions.
- Developed Machine Learning and Computer Vision methods for predicting the diagnostic probability and severity of Movement Disorders (Parkinson's disease and Ataxia).

Future Interfaces Group - Dr. Chris Harrison May 2020 - April 2021
Carnegie Mellon University, Pittsburgh, PA

- Created software pipelines, comprised of deep learning and statistical models, for modeling human motion interaction using input from infrared depth sensors, beyond their 3 meter limit.
- Resulting Publication won best paper award at ACM SUI Conference

Independent Study - Dr. Christopher Homan September 2017 - August 2020
Rochester Institute of Technology, Rochester, NY

- Built deep learning models to understand how behavior spreads between user connections on social media sites and implemented an embedding scheme to train a deep learning model with the additional context of the user's mental state when posting online.
- Independent Study: Autumn 2017, Autumn 2018, Spring 2019
- Full Time Research (Co-Op): Autumn 2019

MIT Summer Research Program - Dr. Alex Pentland Summer 2019
Massachusetts Institute of Technology Media Laboratory, Cambridge, MA

- Created a decentralized auditing tool for a data privacy protocol (OPAL) and designed a case study system that used the protocol with the Argos Simulation software for robot based inference.

NASA Jet Propulsion Laboratory - Dr. Adrian Stoica Summer 2018
California Institute of Technology, Pasadena, CA

- Designed and implemented a deep learning model in Tensorflow for predicting seismic movements over a time series and modeling Human-Robot Interactions

MIT Summer Research Program - Dr. Andrew Lippman Summer 2017
Massachusetts Institute of Technology Media Laboratory, Cambridge, MA

- Worked in the Viral Communications group on applications of cryptocurrencies and using text analysis algorithms to discern bias in news articles

Future Everyday Technology Research Lab - Dr. Daniel Ashbrook
Rochester Institute of Technology, Rochester, NY May 2016 - June 2018

- Used statistical machine learning and audio analysis techniques for sound based interaction and measurement with materials of varying attributes.
- Independent Study: Summer 2016, Autumn 2016, Spring 2017, Autumn 2017
- Full Time Research (Co-Op): Spring 2018

REFEREED CONFERENCE PAPERS

James Spann, Sarah A. Chen, Tetsuo Ashizawa, Ehsan Hoque. `Getting on the Right foot: Using observational and quantitative methods to evaluate movement disorders` *Proceedings of the 29th ACM Conference on Intelligent User Interfaces (ACM IUI)*, 2024

Vivian Shen, **James Spann**, Chris Harrison. `FarOut: Extending the Range of ad hoc Touch Sensing with Depth Cameras` *Proceedings of the ninth ACM Symposium on Spatial User Interaction (ACM SUI)*, 2021 [Won Best Paper Award]

Md. Kamrul Hasan, **James Spann**, Masum Hasan, Md. Saiful Islam, Kurtis Haut, Rada Mihalcea, Ehsan Hoque. `Hitting your MARQ: Multimodal ARgument Quality Assessment in Long Debate Video` *Proceedings of the 2021 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, 2021

PEER REVIEWED WORKSHOPS

James Spann, Pratik Bongale, Chris Homan. `(Un)certainty selection methods for Active Learning on Label Distributions` *15th International OPT Workshop on Optimization for Machine Learning, NeurIPS*, 2023

PEER REVIEWED DOCTORAL CONSORTIUM

James Spann. `Context-Driven Multimodal Tools for Engaging DHH Children at Home` to appear in *26th International ACM SIGACCESS Conference on Computers and Accessibility*, 2024

HONORS AND AWARDS

National Science Foundation - Research Traineeship on Augmented and Virtual Reality 2023 - 2024

University of Rochester PhD Policy Pitch competition - 2nd place Spring 2024
Heidelberg Laureate Forum - Young Researcher 2022

ACM Symposium on Spatial User Interaction (ACM SUI) - Best Paper Award Autumn 2021

Richard Tapia Celebration of Diversity in Computing Autumn 2021

Conference Scholarship - *Jane Street Scholar*

The National GEM Consortium - GEM Associate Fellow 2020 - 2022

National Science Foundation - Research Traineeship Fellowship 2020 - 2021

University of Rochester - Provost's Fellowship 2020 - 2022
(Deferred until Autumn 2021 for the NSF Trainee Fellowship)

RIT McNair Scholar (4 semesters) 2018-2020

RIT Tiger Tank Business Competition Finalist 2019

California Institute of Technology SURF Fellow 2018

First place award - University of Rochester Spring DandyHacks Hackathon 2018

TEACHING EXPERIENCE

Intro to Programming (CSC 161) - Teaching Assistant Autumn 2021, Spring 2022

- Maintained office hours for student assistance, managed and participated in exam grading sessions with other TAs, and helped write course content for exams and projects.

Upward Bound Math/Science Program - Teacher Summer 2021, Summer 2022

- Designed and taught intro Computer Science lectures as a part of the University of Rochester's Summer 2021 Upward Bound program for Rochester high school students. Created and supervised weekly hands-on example activities, and demonstrated various programming techniques.

Data Management Systems (CSC 263/463) - Student Grader Spring 2021

- Graded student exams and assignments.

Principles of Data Mining (CSCI 420) - Student Grader Spring 2020

- Graded student quizzes and held weekly office hours.

INVITED TALKS

Opening Ceremony
11th Heidelberg Laureate Forum 2024

Graduate Student Panel
GEM Grad Lab - University of Rochester 2023

Assisting Doctors with Movement Disorder Diagnosis using AI
Graduate Research Day - University of Rochester 2022

Assisting Doctors with Movement Disorder Diagnosis using AI
NSF-NIH Smart and Connected Health workshop - Washington State University 2022

Research workflows with Jupyter and Conda
PhD #Shots - Rochester Institute of Technology, Rochester, New York 2022

OPAL and Robots Or How I Stopped Worrying And Learned to Algo-

rithmically Trust
MIT Media Lab, Cambridge, Massachusetts 2019

Detecting bias through user interaction
MIT Media Lab, Cambridge, Massachusetts 2017

Knock on Wood Sensor
RIT Undergraduate Research Symposium, Rochester, New York 2016

SELECTED POPULAR PRESS

Discover Something New at Imagine RIT 2019
The secret lives of students who mine cryptocurrency in their dorm rooms 2018
A season of learning at the Lab 2017

ACADEMIC ACTIVITIES

Journal Reviewer: Journal on Multimodal User Interfaces

Conference Reviewer: ACII'21,23; CHI'23; CHI LBW'23,24; Ubicomp'23

Workshop Reviewer: NeurIPS OPT'24

University of Rochester School of Arts, Sciences & Engineering - Conference Grant Reviewer: Winter 2021, Spring 2022

MIT Summer Research Program Application Review Committee: 2021, 2022, 2023, 2024

URCS PhD Admissions Committee: 2024

ACTIVITIES

Graduate Students of Color	August 2020 - Present
Computer Petting Zoo Exhibitor	May 2019 - June 2020
Stanford SERGE	October 2019
McNair Scholars Program	2018-2020
MIT Media Lab Digital Currency Initiative Bootcamp	Summer 2016
RIT Data Science Research Group	2016-2020
Louis Stokes Alliances for Minority Participation (LSAMP)	2018-2020
Multicultural Center for Academic Success Program	2015-2020
RIT No Voice Zone	2015-2020
RIT Go Club	2018-2020
RIT Fencing Club	2015-2017

STUDENTS SUPERVISED

Vuong Chi Ho, B.S. Computer Science, U of R	Spring 2024-Present
Sarah Chen, B.A. Psychology, U of R	Spring 2022-Fall 2022

REFERENCES

Dr. Zhen Bai
Assistant Professor of Computer Science, Department of Computer Science
University of Rochester

Dr. Ehsan Hoque
Associate Professor of Computer Science, Department of Computer Science
University of Rochester

Dr. Chris Harrison
Associate Professor of Human Computer Interaction, Department of Computer Science
Carnegie Mellon University

Dr. Christopher M. Homan
Associate Professor, Department of Computer Science
Rochester Institute of Technology

Dr. Daniel Ashbrook
Associate Professor, Department of Computer Science
University of Copenhagen

Dr. Alex Pentland
Professor of Media Arts and Sciences
Massachusetts Institute of Technology - Media Laboratory

Dr. Andrew Lippman
Professor of Media Arts and Sciences
Massachusetts Institute of Technology - Media Laboratory

Dr. Adrian Stoica
Senior Research Scientist
National Aeronautics and Space Administration - Jet Propulsion Laboratory