Johann Pally

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EDUCATION

UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN
Masters of Computer Science
Highest Honors (4.0/4.0)   2022-2023
RICE UNIVERSITY
Bachelor of Engineering, Computer Science; Bachelor of Arts, Cognitive Science   2018-2022
President's Honor Roll (3.83/4.0), Distinction in Research and Creative Work

PROFESSIONAL EXPERIENCE

Surgery Operations Engineer, Neuralink
Nov 2023 - Mar 2024
- Surfaced and resolved software, hardware, and organizational chokepoints in the BCI implantation surgery process
- Engaged in stakeholder research to promote data accessibility across Neuralink while complying with FDA, EPA, and HIPAA regulations
- Defined Agile development timelines to ensure lean, but feasible software deployments
- Developed full stack solutions for an internal information management system using PostgreSQL, Ruby on Rails, and React

Software Engineering Intern (Artificial Intelligence Department), Southwest Research Institute
May 2023 - Aug 2023
- Built a data analysis pipeline to process data from a multi-modal experiment profiling cognitive load
- Parsed, spliced, and analyzed EEG, Eye Tracking, GSR/EKG, and Speech data
- Trained a Region Proposal Network to count red blood cells in hyperspectral cubes of unstained blood samples
- Devised an autonomous discerner to differentiate saccade and fixation eye movements to train a fatigue detection model

Graduate Teaching Assistant, Computer Science Department at UIUC
Jan 2023 - May 2023
- Collaborated with Prof. Mark Hasegawa-Johnson to plan semester coursework for a 500+ student section of CS 440/Introduction to Artificial Intelligence
- Proctored exams, held weekly office hours, and moderated student discussion on Discord and Campuswire
- Learned pedagogical best practices in a semester long Grainger College of Engineering, Engineering Leadership seminar

Student Team Lead, NSF I-Corps at UIUC
Aug 2022 - Dec 2022
- Designed an edge-to-cloud mobile Pose Estimation application to provide real-time, corrective instructions for weightlifting form
- Programmed a barbell motion profile using data from a smartphone camera and bar mounted IMU sensor
- Conducted market research interviews with gym owners, athletes, and investors
- Presented findings in a course capstone showcase for the Department of Computer of Science

Game Developer, Coordinated Science Laboratory at UIUC
Aug 2022 - Dec 2022
- Defined animal behavior and environment dynamics using the Unity PlayMaker asset for an IoT simulation testbed under the guidance of Dr. Matthew Caesar
- Acted as an interim Introduction to IoT teaching assistant for a lab assignment using the developed testbed

Front End Developer, Rice 360
Aug 2021 - May 2022
- Created a computerized maintenance management system, robust to unreliable internet access, for hospitals in Malawi and Tanzania
- Promoted software to infield clinicians and presented findings at the Rice University OEDK Engineering Showcase

Robotics Mentor, Two Sigma
Jan 2020 - May 2022
- Mentored inner-city high school students to compete in the global FIRST robotics competition
- Assisted senior students with college applications

ADDITIONAL INFORMATION

- Technical Skills: Python (PyTorch, Tensorflow), PostgreSQL, Ruby on Rails, React, Java, Kubernetes, Kotlin, C#, Gitlab
- Certifications: Improving Deep Neural Networks, Structuring Machine Learning Projects, Neural Networks and Deep Learning (2019, DeepLearning.AI)
- Relevant Coursework: Matrix Analysis in Data Science, Human Computer Interaction, Artificial Intelligence, Distributed Systems Programming