

Aidan Curtis

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EDUCATION

Rice University, B.S. in Computer Science and B.S. in Electrical Engineering August 2016 - May 2020
Major GPA: 3.93, Overall GPA: 3.92

RESEARCH EXPERIENCE

Stanford NeuroAILab, Research Assistant June 2018 - September 2019

- Used model-free deep reinforcement learning (A3C, PPO, DQN) to solve visually rich 2D tasks
- Adapted deep reinforcement learning (RL) methods for 3D continuous control and navigation tasks with visual input and a continuous action space
- Built an algorithm that uses adversarial RL methods to create multi-step plans for robotic systems

UT Neuroimaging and Electrophysiology Lab, Research Assistant June 2017 - present

- Used machine learning, digital signal processing, and time series analysis techniques on ECoG data to find significant patterns in the usage of critical language production areas of the brain
- Built a neural decoder BCI that classifies word type from ECoG signals during reading

Rice Digital Gym Lab, Head Software Engineer August 2016 - September 2018

- Developed a mobile application and platform backend for collecting data pertaining to workout statistics from non-contact IoT sensors
- Successfully deployed this product to the Rice Recreational Center

Rice Warmflash Lab, Research Assistant September 2016 - May 2018

- Built an automated syringe pump that dispensed TGF- β ligand on stem cells during microimaging experiments to study growth patterns during cell development

SOFTWARE DEVELOPMENT

HealthSense, Founder and Lead Developer May 2017 - present

- Built a mobile sensing platform (Web, iOS, Android) that assists researchers in conducting longitudinal studies by collecting physiological data through mobile devices
- Assisted research groups at Rice University and Baylor College of Medicine in using the platform to conduct three clinical studies

LinkerLogic, LLC, Co-Founder and Chief Technical Officer June 2014 - June 2018

- Met with clients to discuss and design applications that help clients to reach their goals
- Created cross-platform apps for clients and oversaw all technical projects completed by staff
- Developed notable iOS and Android applications including WRAL, Park Time, iConnect2Colleges, VoteBash, GymNow (Now Localfit), Digiref, and Iceburg

CherryPick Analytics, Lead Developer January 2019 - present

- Built a platform (Web portal, iOS) which uses AI to segment tennis matches and analyze the matches to extract statistics about the player's performance

Webassign, Technical Content Developer June 2016 - August 2016

- Used LaTeX, Mathematica, and PERL to make interactive math questions for teaching purposes

PUBLICATIONS

- **Curtis A.**, Pai A., Cao J., Moukaddam N., and Sabharwal A. HealthSense: Software-defined Mobile-based Clinical Trials. *Mobicom 2019*
- **Curtis A.**, Xin A., and Yamins D. (In Review). Flexible and Efficient Long-Range Planning Through Curious Exploration. *ICLR 2020*
- **Curtis A.**, Forseth K., Woolnough O., Donos C., and Tandon N. (In Preparation) Saccadic corruption of the top-down hypothesis for visual processing

AWARDS

- **IEEE ISCAS Engineering Design World Champion 2019**
Wireless iEEG and Intracranial Rodent Experimentation
- **Rice Electrical and Computer Engineering (ECE) Best Senior Design 2019**
Wireless Neural Recorder for ECoG Probe Implantation
- **Rice ECE Affiliates Day Best Undergraduate Research Poster 2018**
A Platform for Scalable Bio-behavioral Clinical Trials
- **Rice ECE Affiliates Day Second Place Undergraduate Research Poster 2017**
Digital Gym: Non-Contact User Activity Collection and Data Processing

PRESENTATIONS

- **Oral Presentation at Mobicom 2019**
HealthSense: Software-defined Mobile-based Clinical Trials
- **Poster Presentation at Society for Neurobiology of Language 2019**
An Analysis of the Dual Route Theory of Reading Using Neural Decoding
- **Poster Presentation at Society for Neuroscience 2019**
Using Multivariate Pattern Analysis on ECoG to Characterize Neural Language pathways
- **Poster Presentation at Society for Neuroscience 2018**
Saccadic Corruption of the Top-Down Hypothesis for Visual Processing
- **Oral Presentation at Gulf Coast Research Symposium 2017**
Digital Gym: Non-Contact User Activity Collection and Data Processing

OTHER SKILLS AND CERTIFICATIONS

- Proficient in Matlab, Python, C, C++, Golang, Objective-C, OpenCV, OpenGL, Linux, Node.js, Swift, Java, Javascript, PHP, HTML, CSS, Perl, and Ruby
- Experience in building backend APIs with Node.js and Mobile apps using Java, Javascript, and Swift
- Experience with reinforcement learning, convolutional neural networks, recurrent neural networks, and generative models in Keras, Tensorflow and Pytorch