Aidan Curtis

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EDUCATION

Rice University, B.S. in Computer Science and B.S. in Electrical Engineering Aug 2016 - Jan 2020
MIT, Ph.D. in Computer science and Electrical Engineering Aug 2020 - Present

RELEVANT EXPERIENCE

Stanford NeuroAILab, Research Assistant Jun 2018 - Jun 2020
- Used model-free deep reinforcement learning (DRL) to solve visually rich 2D tasks
- Adapted DRL methods for 3D continuous control and navigation tasks with visual input and a continuous action space
- Performed an architecture search over convolutional bottlenecks for continual learning applications

IBM, Software Engineer Jan 2020 - Aug 2020
- Worked on microservice deployment and containerization
- Used machine learning to analyze cloud consumer data and optimize billing services

Rice University, Teaching Assistant Aug 2017 - May 2018
- Algorithmic Thinking (COMP 182): Office hours, graded homework/tests
- Fundamentals of Electrical Engineering (ELEC 241): Office hours

Rice Digital Gym Lab, Head Software Engineer Aug 2016 - Sep 2018
- Developed a mobile application and platform backend for collecting data pertaining to workout statistics form non-contact IoT sensors
- Successfully deployed this product to the Rice Recreational Center

LinkerLogic Technologies, Co-Founder and Chief Technical Officer Jun 2014 - May 2018
- Met with clients to discuss and design applications that help reach their goals
- Developed 11 cross-platform mobile & web applications for clients and oversaw all technical projects

PUBLICATIONS

- **Curtis A.**, Silver T., Tenenbaum J., Lozano-Perez T., Kaelbling L. P., “Discovering State and Action Abstractions for Generalized Task and Motion Planning”, *AAAI 2022*
- **Curtis A.*,** Fang X.*, Kaelbling L. P., Lozano-Pérez T., Garrett C. “Long-Horizon Manipulation of Unknown Objects via Task and Motion Planning with Estimated Affordances”, *In Submission*
- Sharma S., **Curtis A**., Kryven M., Tenenbaum J., Fiete I. “Map Induction: Compositional spatial submap learning for efficient exploration in novel environments”, *In Submission*
- Silver T., Chitnis R., **Curtis A.**, Tenenbaum J., Lozano-Perez T., Kaelbling L. P. “Planning with learned object importance in large problem instances using graph neural networks”, AAAI 2021
- **Curtis A.**, Xin A., Feigelis K., and Yamins D. Flexible and Efficient Long-Range Planning Through Curious Exploration. *ICML 2020*
- **Curtis A.**, Pai A., Cao J., Moukaddam N., and Sabharwal A. “HealthSense: Software-defined Mobile-based Clinical Trials”. *MobiCom 2019*

- Gan C., DiCarlo J., McDermott J., Tenenbaum J., Yamins D., [et al, including **Curtis A.**] "ThreeDWorld: A Platform for Interactive Multi-Modal Physical Simulation", *NeurIPS 2022*
- Woolnough O., Donos C., **Curtis A**., Rollo P., Roccaforte Z., Dehaene S., Fischer-Baum S., Tandon N. "A Spatiotemporal Map of Reading Aloud", *In Submission*
- **Curtis A.**, Forseth K., Woolnough O., Donos C., and Tandon N. "Saccadic corruption of the top-down hypothesis for visual processing". *In Submission*

HONORS & AWARDS

- **Harold E. Edgerton Memorial Fellowship 2021**
- **NSF Graduate Research Fellowship 2021**
- **Rice Distinction in Research and Creative Work Award 2020**
- **MobiCom Best Community Paper 2019**
  HealthSense: Software-defined Mobile-based Clinical Trials
- **Rice Summer Undergraduate Research Fund 2019**
- **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 2018**
  A Platform for Scalable Bio-behavioral Clinical Trials

PRESENTATIONS

- **Oral Presentation at MIT EI Embodied Intelligence Seminar 2021**
  Manipulation of Unknown Objects via Task and Motion Planning with Estimated Affordances
- **Poster Presentation at ICML 2020**
  Flexible and Efficient Long-Range Planning Through Curious Exploration
- **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 RELEVANT SKILLS

- Proficient in Python, Matlab, C, C++, Golang, R, Swift, Java, Javascript, PHP, Perl, and Ruby
- Experience with C/C++ libraries such as CUDA, OpenCV, OpenGL
- Experience with reinforcement learning, convolutional neural networks, recurrent neural networks, and transformer networks, in Keras, Tensorflow and Pytorch