Jordan A. **Ott**

Ph.D. Candidate · UC Irvine

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Research

Interests

- Learning theories ∼ biologically plausible backpropagation
- Sensory motor integration in a reinforcement learning context
- Visual attention and memory mechanisms

Graduate Researcher

May 2017 - May 2018

Machine Learning and Assistive Technology Lab — *Orange, CA*

- Comparing the utility of weight sharing in biological systems to machine systems (convolutional neural networks)
- Applications of various machine learning techniques to predict subject's actions in advance of movement via electroencephalogram
- Deep learning applications to video indexing, specifically software engineering based tutorials
- Reinforcement learning for advancements in artificial sensory motor integration

Undergraduate Researcher

Aug. 2016 - May 2017

Machine Learning and Assistive Technology Lab — *Orange, CA*

- Unsupervised deep learning Remote Sensing model capable of separating clouds from satellite images
- Using LDA to analyze R source code and open source MATLAB functions, to better understand the topic space of scientific computing

Professional Experience

Graduate Student Instructor

Sept. 2018

UC Irvine — *Irvine, CA*

Data Science Intern

June 2018 - Sept. 2018

Workday — *Pleasanton, CA*

- Customer usage modeling
- Predicting load and growth rate of new customers
- Time series forecasting on internal metrics

Graduate Research Intern

May 2017 - Aug. 2017

Aerospace Corporation — *El Segundo, CA*

- Deep Learning and High Performance Computing Research
- Predict coordinate location from images when GPS signal becomes unavailable
- Machine learning algorithms to detect anomalies in rocket launch data

Software Engineering Intern

May 2016 - Aug. 2016

Triple Ring Technologies — *Newark, CA*

- Embedded systems engineering on human implantable devices to monitor glucose levels in patients with Diabetes
- Developed internal repository tracking application, auto scheduling builds, reporting errors, logging changes
- Software modifications to blood pressure cuffs for medical research, blood oxygenation analysis

Technical Skills

- Python, Lua, R, Matlab, C++, Java, SQL
- Cuda, Caffe, Git, Keras, PyTorch, Tensorflow, Unix

Education

Ph.D in Computer Science *Sept. 2018 - Present*

UC Irvine *Orange CA*

- Artificial Intelligence

M.S. in Computational Data Science *Aug. 2017 - May 2018*

Chapman University *Orange CA*

- Thesis: "ReaderNet: A Reinforcement Learning Agent for Image to Text Transcription"

B.S. in Computer Science Magna Cum Laude *Aug. 2014 - May 2017*

Chapman University *Orange CA*

- Minor in Mathematics

Independent Work

Feedback Attention RNN *June 2018*

- Hidden states are passed to lower layers
- Attention over incoming hidden states

Relational Localization *February 2018*

- Ask a neural network relational questions: *"What person is farthest from the street light?"*
- The neural network correctly answers and localizes the correct person in the image
- Adapted from DeepMind's Relational Network

President and Founder *Jan. 2016 - Mar. 2017*

Chapman Robotics *Orange, CA*

- RC car controlled by camera and Raspberry Pi to autonomously steer vehicle
- Create and train a convolutional neural network to steer a car through an environment

MIT: Deep Learning for Self-Driving Cars Competition *Mar. 2017*

- Car steers through simulation traffic at 75 mph
- Ranked 6th in the world (as of August 2017)

Honors & Awards

Most Distinguished Undergraduate Nominee - Cheverton Award *2017*

- One of six undergraduates nominated

Outstanding Leadership Award *2017*

- Recognized for my work as president of Chapman Robotics

Outstanding student organization Nominee *2017*

- Chapman robotics was recognized as an outstanding student organization

Orange County Computer Club Scholarship *2017*

Ronald M. Huntington Scholarship Award *2017*

Publications

1. Jordan Ott, Erik Linstead, Nicholas LaHaye, and Pierre Baldi. Learning in the machine: To share or not to share? *In review for Neural Networks*, 2018
2. Jordan Ott, Abigail Atchison, Paul Harnack, Adrienne Bergh, and Erik Linstead. A deep learning approach to identifying source code in images and video. *MSR-2018*, 2018
3. Jordan Ott, Abigail Atchison, Paul Harnack, Natalie Best, Haley Anderson, Cristiano Firmani, and Erik Linstead. Learning lexical features of programming languages from imagery using convolutional neural networks. *ICPC-2018*, 2018

Presentations

1. Nicholas LaHaye, Jordan Ott, Michael Garay, Hesham El-Askary, and Erik Linstead. Multimodal object tracking and image fusion using unsupervised deep learning methodologies. *American Geophysical Union*, 2017