Jeffrey O Zhang

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EDUCATION

University of California, Berkeley   May 2019

B.S. in Electrical Engineering and Computer Science

- GPA: 3.9/4.0

PUBLICATIONS

Modular Architecture for StarCraft II with Deep Reinforcement Learning (Link**)**

Dennis Lee*, Haoran Tang*, **Jeffrey O Zhang**, Huazhe Xu, Trevor Darrell, Pieter Abbeel
AIIDE 2018.

RESEARCH EXPERIENCE

Undergraduate Researcher   August 2017 – June 2018

Berkeley Artificial Intelligence Research Laboratory

- Under Prof. Trevor Darrell and Pieter Abbeel
- Developed full agent to play Starcraft II competitively to show that contemporary reinforcement learning techniques are tractable when applied to complex systems
- Utilized self play with curriculum training, modular architecture and state of the art reinforcement learning techniques to build the semi-learned agent
- Built measurement prediction module to predict movement of an agent in StarCraft II mini-game environments

Visiting Researcher   June – December 2018

Centre for Computational Evolution

- Under Prof. Alexei Drummond
- Developed a well-calibrated and rigorously validated package in BEAST to incorporate state dependent speciation and extinction models (e.g. BiSSE, CLaSSE, HiSSE) in MCMC analysis
- Incorporated stochastic character mapping to analysis ancestral traits
- Currently writing a methods paper to be released by the summer

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INDUSTRY EXPERIENCE

Software Engineering Intern   June – August 2017

LiveRamp

- Led new initiative to incorporate AI into privacy approval and created free-text classifier using NLP
- Wrote a lookup API that lets user query for any segment using field value pairs in Ruby on Rails
- Updated UI to enable cross user mapping using React and Redux
- Developed Webhook framework to allow programmatic interactions (replacing pooling) with product to significantly reduce the number of incoming API calls

Software Developer Intern   May – August 2016

SAP

- Developed backend for Internet of Things management product in Java and SQL
- Designed and implemented a generic REST framework to integrate our solution with SIM providers
- Researched partners' APIs and wrote tool to sync and edit device data

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TECHNICAL SKILLS

Languages: Python, JavaScript, Ruby, Java, SQL, Swift
Libraries: PyTorch, Tensorflow, PySC2, rllab

SOFTWARE PROJECTS

Berkeley Roommate Network

- Project to help incoming college students find roommates that fit their profile
- Interviewed students to understand the biggest challenges for students coming into college
- Built a roommate search network of over 2000 incoming Berkeley freshmen on Facebook
- Developed a thorough questionnaire to understand behaviors and what people were looking for in a roommate, learning from successful sites like eHarmony and Match.com
- Implemented and used a roommate compatibility algorithm to match potential roommates
- Gathered survey data to understand how we can iterate and improve in the next implementation

Flick-It

- iOS game that involves flicking shapes into the correct bin using Swift
- Engineered shape/bin collisions, shape spawning, pause feature and restart feature
- Designed and coded the play screen, pause screen, and game-over screen
- Encountered and overcome challenges with creating an intuitive, easy-to-learn user interface

Object Integration GAN

- Developed a model that inserts images into scenes naturally and quickly without intense computation
- Trained GAN using L1, GAN, and additional structurally-local losses
- Processed, prepared and cleaned dataset building off of SUNRGBD

RELEVANT COURSEWORK AT UC BERKELEY

Vision/ML/AI: Computer Vision, Special Topics in Deep Learning, Machine Learning
Math: Probability Theory and Stochastic Processes, Discrete Mathematics, Real Analysis, Linear Algebra
Algorithms: Quantum Computation, Algorithms, Data Structures
Others: Operating Systems, Machine Structure, Information Devices and Systems

ACTIVITIES AT UC BERKELEY

Alpha Phi Omega Service Fraternity

- Hosted and served in many service projects around campus (my favorite being Prisoners Literature Project in which I read letters from prisoners and provided them with requested books)

Mobile Developers at Berkeley

- Learned the fundamentals to developing iOS applications and used my skills to develop applications
- Led a team to develop a full and successful iOS game