Simon Zhuang

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EDUCATION

Undergraduate, *University of California, Berkeley* **Aug 2016 – Present**
BA, Computer Science, Applied Mathematics
GPA 3.95, Major GPA 4.00

CS Coursework: Deep Neural Networks, Machine Learning, Artificial Intelligence, Algorithms, Data Structures, Machine Structures
Math Coursework: Probability and Statistics, Numerical Analysis, Real Analysis, Linear Algebra

EXPERIENCE

Quantitative Trading Intern, *Jane Street Capital* **May 2018 – Aug 2018**

Researcher, UC Berkeley Simons Institute for the Theory of Computing **Jan 2018 – Present**
- Analyzed and compared 24 fairness metrics in the facilities location problem theoretically and computationally
- Applied results on real word data, including the effects of closing the Alta-Bates ER in Alameda County

Software Engineer Intern, *Cloudwiz* **Jun 2017 – Aug 2017**
- Worked with MySQL database with asynchronous replication and implemented algorithms ad-hoc

PROJECTS

Deep Reinforcement Learning in Multiagent Games **April 2018**
- Implemented deep q-learning using convolutional networks on raw sensory inputs in Tensorflow
- Improved performance using dueling and double DQN
- Trained multiple DQN agents in cooperative and competitive Atari game environments
- Visualized results with saliency maps, compared results for various degrees of cooperation/competition

CNN Photo Classifier **Feb 2018**
- Designed and implemented a general convolutional neural network from scratch in Python using Numpy to classify images
- Achieved 75% validation accuracy for CIFAR-10 dataset

Neural Machine Translation **March 2018**
- Built deep LSTM network for translating phrases between languages
- Implemented and compared results for several models of machine attention
- Trained on dataset of English-Vietnamese phrases and achieved a BLEU score of 20

Dub-It **March 2017**
- Application that provides text-to-speech using a celebrity/politician's voice.
- Built using IBM Watson Language API and pydub library on Python.
- Won best entertainment hack, Hacktech 2017.

Hog Strategy Contest **Sept 2016**
- Create an AI using dynamic programming in Python for the die game Hog to compete against other submission in CS 61A class. Placed 3rd with 113 Wins and 3 losses

SKILLS

Experienced: Python, Java
Proficient: C, SQL, Julia, HTML, Scheme, Tensorflow
Familiar: C#, C++, CSS, Javascript, Flask, OCaml, Pytorch

AWARDS

2018 UChicago Midwest Trading Competition – 3rd Place
2017 Putnam Competition – Top 500
2014 USA Junior Mathematics Olympiad – 80th Place
2015 Ohio Mathematics League Winner
2015 US National Chemistry Olympiad – Top 150