Charles Tang

chuck.tang98@gmail.com | https://github.com/j316chuck | https://j316chuck.github.io

EDUCATION

UC BERKELEY
B.A. Computer Science
Graduating May 2020
Cum. GPA: 3.942/4.0

COURSEWORK

Data Structures (A+ Top 1%)
Artificial Intelligence (A+ Top 5%)
Machine Learning
Signals and Systems
Operating Systems
Algorithms
Discrete Mathematics
Probability and Random Processes
Programming Languages
Computational Biology

SKILLS

PROGRAMMING LANGUAGES
Python • Java • C++
C • Bash • R
Octave • HTML • CSS

FRAMEWORKS AND TOOLS
Travis CI • Bootstrap • Latex

ACTIVITIES

KAGGLE COMPETITIONS
10/2017 - Present

- Placed in the top 7% among 900+ teams in the 2018 March Madness Prediction Challenge
- Participated in machine learning competitions in the domains of ad prediction, cell nucleus image segmentation, toxic comment classification, etc.

COMPETITIVE PROGRAMMING
07/2015 – 01/2018

- Codeforces Peak Rating: 1758
  Top 15% out of 10,000+ users
  Expert Category
- Competed in the Pacific NorthWest ACM-ICPC Regional Contest
- Placed in Top 9 at the Berkeley Programming Contest
- Proficient in algorithms including dynamic programming, computational geometry, graph theory, segment trees, etc.

EXPERIENCE

QUORA | Data Infrastructure Software Engineer Intern
05/2019 - 08/2019 | Mountain View

- Wrote a prediction algorithm using DFS and historical task times to predict task end dates for Airflow DAGs
- Built internal tool using monkeytype to annotate python code with types

UC BERKELEY | Intro to AI Teaching Assistant
01/2019 - 05/2019 | UC Berkeley

- Hosted weekly discussions, lead office hours, and developed exam problems.
- Taught topics ranging from reinforcement learning, bayes nets, game trees, etc.

JOHNSON AND JOHNSON | Machine Learning Intern
06/2018 - 08/2018 | San Diego

- Employed the Felzenszwalb algorithm (opencv) to segment skin disease images.
- Proposed segmentation regions were fed into a CNN which separated lesion and non-lesional regions with 90% cross validation accuracy.

RESEARCH

ROBOTICS RESEARCH | Hybrid Systems Research Lab
09/2019 - Present | Professor Claire Tomlin

- Learning the control theory behind HJI reachability analysis and how to set up and solve the min-max differential PDEs.
- Implementing safe navigation functions for physics simulations in the beacls C++ repository (existing Matlab codebase HelperOC used as guideline)

MACHINE LEARNING RESEARCH | Berkeley AI Research Lab
06/2018 - Present | Professor Jennifer Listgarten

- Compared different generative models (HMM, VAE, RNN) and their abilities to predict high-log likelihoods for dataset distributions similar to the training set
- Bounding linear and nonlinear loss function errors when one relaxes the simplex to the discrete space using the gumbel softmax trick

COMPUTATIONAL BIOLOGY RESEARCH | Center for Comp. Bio
02/2018 - 06/2018 | Professor Nir Yosef

- Built R wrapper package around the C++ LINE dimensionality reduction algorithm to process biological data using devtools, testthat, and Roxygen

PROJECTS

MONERO CRYPTOCURRENCY MINING | August 2018

- Selected hardware and built computer with Radeon Vega GPU that achieved an average hash rate of 1339.7 Hashes per second
- Achieved greater than 10x speed up compared to CPU hashrate

CAL HACKS EARTHQUAKE APPLICATION | October 2017

- Built a simple prototype for an Android real-time earthquake alert app

AWARDS AND HONORS

2018	EECS Honors Program
2018	Upsilon Pi Epsilon (CS Honors Society)
2017	USA Computing Olympiad Platinum Division Qualifier
2013 - 2016	4x American Invitational Mathematics Exam Qualifier
2015	USCF Expert Category Chess Player: Rating 2055
2014	California Parliamentary Debate State Champion