

CAT NGO

github.com/catngo

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EDUCATION

Harvey Mudd College

Joint Computer Science and Mathematics (B.S.)

Relevant Coursework: Computer Insights, Data Structures and Program Development, Discrete Mathematics, Intermediate Linear Algebra, Intermediate Probability, Logic and Computability, Abstract Algebra

Expected Graduation 2020

Major GPA: 3.80

EXPERIENCE

Computer Science Tutor/Grader – Claremont, CA

Computer Science Department

August 2017 — Present

- Tutor students and grade assignments for Intro to Computer Science (Fall 2017), Computer Insight (Spring 2017) and Data Structures (Fall 2018)

Sports Data Analyst – Claremont, CA

Claremont-Mudd-Scripps Mens' Basketball

August 2017 — January 2018

- Scraped play-by-play logs of games from 2016-2017 season of the Mens' Basketball Team
- Automated statistical analysis of the performance of five-player lineups in Python
- Applied analysis to generate practical team strategy recommendations and presented findings to Head Coach

Howard Hughes Medical Institute Research Intern – Pasadena, CA

Prober Lab, Department of Biology and Biological Engineering, California Institute of Technology

June 2017-August 2017

- Measured relative expression of cytokines marker IL-1 β , IL-6 and NF- κ B in zebrafish using qPCR
- Computationally administered ANOVA tests to statistically guarantee differences between expression populations
- **Publication:** Maheras et al. (2018). *Genetic Pathways of Neuroregeneration in a Novel Mild Traumatic Brain Injury Model in Adult Zebrafish*. *eNeuro* 2 January 2018

PROJECTS

Chunky String Data Structure – C++

April 2018 — May 2018

- Implemented generic Chunky List data structure that dynamically stores arbitrary data in a linked list of arrays
- Wrote constant-time insert and erase functions for the data structure

March Madness Modeling and Prediction – Python

March 2017

- Scraped statistics from teams in the past 6 tournaments in NCAA D1 Tournament
- Applied genetic optimization to generate weight vectors predicting winner in head-to-head matchup with >60% accuracy

Salary Estimation – Python

December 2016

- Trained a random forest classifier on the Census Income dataset to predict whether an individual will earn more than \$50k/year with given qualifications
- Analyzed model to determine optimal way for job candidates to maximize earning potential

SKILLS

Programming Languages

Python, C++, Java, Racket, R, HTML/CSS

Software Libraries

Numpy, Pandas, Matplotlib, Scikit-Learn, BeautifulSoup

Utilities

L^AT_EX, Git, Markdown

EXTRACURRICULAR ACTIVITY & LEADERSHIP

Disciplinary Board Chair: Handle self-reports and lead bi-weekly Honor Board meeting

May 2018 — Present

Honor Board Class of 2020 Representative

January 2017 — May 2018