TOM XIE

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EDUCATION

University of California, Berkeley Berkeley, CA

Bachelor of Science, Electrical Engineering and Computer Science (EECS) Expected May 2022

Relevant Coursework:

- CS 162: Operating Systems and System Programming
- CS C100: Principles and Techniques of Data Science
- CS 70: Discrete Mathematics and Probability Theory
- CS 161: Cyber Security
- CS 61C: Machine Structures
- CS 61B: Data Structures
- CS 61A: Structure and Interpretation of Computer Programs
- EE 16B: Designing Information Devices and Systems II
- EE 16A: Designing Information Devices and Systems I

PROJECTS

Pintos OS Spring 2020

- Collaborated with peers for a large group project in Operating Systems course
- Developed extensions for a simple OS including user program management, multi-thread scheduling, and fast file system
- Managed debugging large systems, concurrency, and low-level memory to make OS code efficient

Number Classify October 2019

- Implemented an artificial neural network using RISC-V assembly code to classify a handwritten digit as a number from 0 to 9 based off a dataset of 60,000 samples
- Implemented matrix multiplication functions to carry out classification process

Robot Collector: World Exploration Engine April 2019

- Designed and implemented a Java engine that generates pseudo-random 2D tile-based worlds incorporating interactive mechanics such as moving robot sprites and limited player vision to create a playable game
- Implemented several features including multiple save files, name input, and a heads-up display

WORK/VOLUNTEER EXPERIENCE

EE16B Lab ASE (Academic Student Employee) January 2020 – May 2020

UC Berkeley EECS Department

- Improved lab content by discovering and fixing bugs in Jupyter notebooks due to lab updates for the current semester
- Assisted lab instructors by answering student questions, debugging circuits/code, and decreasing overall checkoff time

CS61C/CS61B Academic Intern August 2019 – May 2020

UC Berkeley EECS Department

- Guided students on programming fundamentals taught in homework, labs, and projects including OOP, hashing, sorting, and search algorithms

SKILLS

Programming/Software:

- C, Java, Python (pandas, NumPy, scikit-learn, matplotlib), JavaScript (React.js), Go, Linux, SQL (MySQLdb and phpMyAdmin), Assembly (RISC-V and x86), Scheme, HTML/CSS, and Microsoft Office

Research:

- Co-authored three scientific articles in Tuscarora High School's iGEMS Bioengineering Club explaining the processes used to develop a synthetic seaweed to prevent a parasite, *Perkinsus marinus*, from reaching oysters in the Chesapeake Bay (see Publications)