SAMANTHA HUANG

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EDUCATION

University of California - Berkeley Aug. 2020 - Dec. 2024

Computer Science BA, Data Science BA *3.36/4.0*

Relevant Coursework: Data Structures, Efficient Algorithms, Artificial Intelligence, Data Science, Database Systems, Machine Structures, Computer Graphics, UI Design & Development, Signals and Systems, Operating Systems, Optimization Models
Current: Machine Learning, Deep Neural Networks, Computational Biology, Internet Architecture & Protocols

Awards: Electrical Engineering & Computer Science (EECS) Departmental Award (Spring 2024, Fall 2024)

SKILLS

Languages: Python, Java, C/C++, Rust, SQL, JavaScript, HTML/CSS
Developer Tools: Git, VS Code, Docker, AWS, IntelliJ, Jupyter Notebook, Xcode, Google Colab, PgAdmin4
Libraries & Frameworks: Pandas, NumPy, Psycopg2, Matplotlib, Seaborn, Scikit-Learn, MongoDB, React, Node.js, PyTorch
Misc: Figma, SolidWorks, Blender

EXPERIENCE

Bio-Rad - Software Engineering Intern | *Hercules, CA* Jun. 2024 – Present

- Design and implement a parsing script that reduced the length of the log data by 98% while maintaining required data
- Deploy a PostGres database on AWS to store the data created from the parsing script
- Create a pipeline from the instrument logs to the dashboard website using AWS S3, Lambda, and EC2

Berkeley EECS: Introduction to Artificial Intelligence - Teaching Assistant | *Berkeley, CA* Jan. 2024 – Present

- Conduct weekly discussion sessions for 20-30 students, providing comprehensive coverage of course materials
- Hold weekly office hours, offering personalized assistance to 10-20 students to address their questions and bugs
- Provide one-on-one mentoring sessions, offering tailored support to students requiring additional guidance

Computer Science Mentors - Full Stack Developer | *Berkeley, CA* Jan. 2024 – Present

- Implement profiles of mentors and students to be filled out through their account
- Design a dashboard to enhance course coordinators' management of course sections
- Implement a search tool for coordinators to efficiently navigate course content

Robotics & Artificial Intelligence Lab - Student Lab Assistant | *Berkeley, CA* Apr. 2023 – Apr. 2024

- Collect training data for learning algorithms by operating a physical arm via a virtual reality headset
- Utilized a WidowX and Franka robot to demonstrate a wide range of complex tasks
- Debugging issues with the program to collect data

PROJECTS

Pintos OS | *C, Docker, Git, VS Code*

- Implemented core functionalities of our educational OS Pintos (ie. argument passing, essential syscalls, and floating point operations)
- Implement efficient alarm clock and strict priority scheduler for kernel threads
- Added support for multithreaded user programs
- Designed how we would implement above and created a report of how our implementation differs from our original design

Spam Email Classifier | *Python, Pandas, NumPy, Matplotlib, Seaborn*

- Deployed a Logistic Regression model incorporating diverse features for spam email classification
- Conducted in-depth data analysis using various visualization techniques to identify optimal model features
- Achieved an accuracy rate of 86.1% in correctly identifying spam emails

Digit Classification | *Python, VS Code*

- Implemented the perceptron algorithm and recurrent neural network models
- Applied the models on the MNIST dataset
- Achieved an accuracy rate of 97% on the test set