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 and Intractable Problems, Introduction to Database Systems, Machine Structures, Signals and Systems, Operating Systems and System Programming, Optimized Models in Engineering
Awards: Electrical Engineering & Computer Science (EECS) Departmental Award (Spring 2024)

SKILLS & CERTIFICATIONS

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

EXPERIENCE

Computer Science Mentors - Full Stack Developer | *Berkeley, CA* Jan. 2024 – Present
- Implementing a dashboard to enhance course coordinators' management of course sections, customizing interfaces to align with their preferences
- Create new interfaces to satisfy the coordinators' preferences (based on open survey)
- Implementing a search tool for coordinators to efficiently navigate course content

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 queries and challenges
- Provide one-on-one mentoring sessions, offering tailored support to students requiring additional guidance

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

Recovery | *Java, Git, IntelliJ*
- Implemented write-ahead logging and comprehensive support for save points, rollbacks, and ACID compliant recovery mechanisms
- Demonstrated proficiency in ACID properties understanding and implementation
- Incorporated efficient buffer management techniques to optimize system performance

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