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: Deep Neural Networks, Computational Genomics, Research in AI Education

EXPERIENCE

Bio-Rad Laboratories | Software Engineer 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 AWS Lambda that connects the instrument logs in an S3 to the script and uploads the output to the database
- Create a Grafana dashboard that uses SQL queries to visualize data
- Incorporate code into the instrument software to collect data automatically
- Presented project to the Clinical Diagnostics Group with 40-50 people in attendance

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

UC Berkeley | Teaching Assistant, CS 188 | 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
- Updated notes that students utilize as a resource to supplement their learning

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

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: Pytorch, Pandas, NumPy, Psycopg2, Matplotlib, Seaborn, Scikit-Learn, MongoDB, React, Node.js
Misc: Figma, SolidWorks, Blender, Microsoft Office 365, Google Suite, Mandarin (Conversational), Cantonese (Conversational)