Amir Mairaj

San Diego, CA | (858) 353-1906 | amairaj@uci.edu | linkedin.com/in/amir-mairaj/ |
https://github.com/amiramadmairaj | bit.ly/amirmairaj

Education

Bachelor of Science in Computer Science w/ Specialization in Information Systems
University of California Irvine - GPA: 3.716, Dean's Honor List
Expected Graduation: **12/20/2023**

Experience/Work History

Backend Software Engineer Intern, Odyssey | Remote **02/01/2023 - 06/20/2023**

- Developed a full-stack **React** web application on **AWS Amplify**, incorporating robust sign-in/out authentication.
- Utilized AWS Lambda to create a Lambda function that incorporates OpenAI API calls, and manage data retrieval and storage through a NoSQL database (**AWS DynamoDB**)
- Collaborate with project managers through biweekly standups, leveraging **agile** software development methodologies to ensure project milestones are achieved on time and within scope.

Office of Information Technology Consultant, UC Irvine | Irvine, CA **12/01/2021 - Present**

- Achieved a 75% reduction in escalations to higher-level technicians by efficiently handling complex user requests involving software such as Cisco Anyconnect VPN, Duo Multi-factor Authentication, Software Licensing Support (all university-supported software), Adobe Suites, and Microsoft Office 365
- Utilized ServiceNow for support tracking and analysis, directly contributing to the enhancement of AI chatbot for improved self-help systems.

Projects

Command Line Shell ***https://github.com/amiramadmairaj/shell***

- Engineered a command-line shell in **C**, supporting built-in commands, local executables, and user input processing.
- Implemented advanced job control and signal handling for process management, including foreground/background execution and interruption.
- Developed I/O redirection and file permissions handling, enabling flexible file input/output operations within the shell.

Memory Simulator ***https://github.com/amiramadmairaj/virtualmemory***

- Implemented a simulation of a virtual memory system with FIFO and LRU page replacement algorithms in **C**, managing memory access and page faults.
- Engineered a system to handle 128 virtual addresses and 32 physical addresses, accurately simulating page transfers between disk and main memory.
- Created a user-friendly interface for memory operations and rigorously tested the simulator for 100% line coverage using a custom Python script.

Web Scraper ***https://github.com/amiramadmairaj/SearchEngine***

- Designed a **Python**-based web scraper for UC Irvine's ICS subdomains.
- Implemented an adaptable inverted index using hash maps to optimize search time.
- Employed search term stemming, TF-IDF score calculation, and SimHash for enhanced search results.
- Created a user-friendly WebGUI using **Flask**, **HTML**, and **CSS** to interact with the search engine.

Personal Website Portfolio ***https://bit.ly/amirmairaj***

- Developed a personal website and portfolio using **HTML**, **CSS**, **JavaScript,** and **Bootstrap**.

Slumber ***https://github.com/amiramadmairaj/Slumber***

- Co-developed an iOS wellness application using **Swift**, integrating Apple Watch and HealthKit.
- Implemented biometric data collection for real-time monitoring of vital health metrics.
- Utilized machine learning models (Core ML) to provide personalized recommendations for improved sleep and exercise habits.

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Machine Learning Classification Analysis ***http://bit.ly/MNSTStudyAmirMairaj***

- Tuned hyper-parameters for machine learning classifiers (KNN, Logistic Regression, Neural Network, and Random Forest) using **sci-kit-learn** for enhanced performance on the Fashion-MNIST dataset.
- Co-authored a research paper on classification methods for the Fashion-MNIST dataset.

Leadership & Affiliation

CodePath - Intro to Cyber Security | Community Member | Remote **07/26/2023 - Present**
UC Irvine Google Developer Student Club | Co-President | Irvine, CA **08/01/2022 - 08/01/2023**

Skills

Languages: Python, CC++, Java, Swift, SQLite, R
Tools: Windows, Linux, MacOS, AWS (DynamoDB, Lambda, Amplify, EC2, API Gateway), MySQL, Git, GitHub, VSCode, Eclipse, PyCharm, CLion, Jupyter Notebook, ML Libraries (pandas, NumPy, matplotlib, seaborn, sci-kit-learn)