Amir Mairaj

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EDUCATION

University of California, Irvine
B.S. Computer Science | GPA: 3.7/4.0   Graduated Fall 2023
Relevant Coursework:
Machine Learning/Data Mining, Computer Networks, Programming Software Libraries, Intermediate Programming, Critical Writing, Introduction to Digital Systems, Introduction to Software Engineering, Next-Gen Search Systems, Requirements Analysis & Engineering, Information Retrieval, Principles in System Design, User Interaction Software

TECHNICAL SKILLS

Languages: Python, Java, C/C++, SQL/SQLite, HTML/CSS, JavaScript
Tools: Windows, Linux, MacOS, AWS (DynamoDB, Lambda, Amplify, EC2, API Gateway), MySQL, Git, GitHub, VSCode, Eclipse, PyCharm, CLion, VIM, Jupyter Notebook, ML Libraries (pandas, NumPy, matplotlib, seaborn, sci-kit-learn)

EXPERIENCE/WORK HISTORY

UC Irvine Office of Information Technology, Irvine, CA - *Help Desk Analyst*   12/2021 - 12/2023
- Achieved well over 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 Suite
- Utilized ServiceNow for support tracking and analysis, directly contributing to the enhancement of AI chatbot model for improved self-help systems.

Odyssey, Irvine CA - *Backend Software Engineer Intern*   02/2023 - 06/2023
- Developed a full-stack React web application using AWS Amplify, incorporating sign-in/sign-out authentication and CI/CD implementation.
- Leveraged AWS Lambda for executing OpenAI API calls and managed data retrieval and storage through DynamoDB.
- Designed efficient NoSQL tables to store and manage user data, ensuring seamless access to past user itineraries and preferences.
- Collaborated in agile software development methodologies, meeting project milestones on time and within scope.

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.
- Deployed on GitHub Pages

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

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.