Henry Webb

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EDUCATION

Rensselaer Polytechnic Institute   Troy, NY

B.S. in Computer Science;   *Concentration in Artificial Intelligence*   *Aug. 2020 – Dec 2024*

WORK EXPERIENCE

Software Engineer Co-Op   January 2023 – September 2023

Regeneron Pharmaceuticals   *Tarrytown, NY*

- Developed Full-stack Applications: Designed and implemented robust full-stack solutions, employing Python, Flask, HTML, CSS, and JavaScript, to automate and streamline processes within the Clinical Histology Core. These applications significantly improved the throughput and efficiency of various departmental pipelines.
- Enhanced User Experience: Collaborated directly with clinical histologists to gather insights and feedback, leading to the creation of user-friendly front-end interfaces. Adjustments from iterative feedback cycles ensured tools were accessible and beneficial for users of varying technical expertise.
- Managed Cloud Infrastructure: Assisted in setting up and configuring an AWS server environment, ensuring secure and efficient hosting for all applications. This involvement ensured quick and seamless deployment and uninterrupted service for end-users.
- Advanced Data Analytics: Played a key role in reimagining and restructuring the department's analytical data pipeline. Utilizing advanced web servers, database management practices, and my expertise in programming, I introduced transformative approaches to data handling and visualization that bolstered decision-making processes and efficiency within the department.

PERSONAL PROJECTS

iOS Running Application | *Swift, SwiftUI, XCode Cloud, Mapbox, Firebase, Git*   November 2022 – Present

- Led development on an iOS application programmed in Swift with Swift UI, integrated location features with Mapbox's mapping SDK, and connected online features to an updating database via Firebase.
- Developed an algorithm to generate random running routes on a map that start and finish at the same destination and span a specified length derived from the Dijkstra's and 5Sum algorithms.

LLM Video Curator | *HTML, CSS, JavaScript, Selenium, BeautifulSoup, APIs, LLM*   Sep 2023 – Present

- Developed a dynamic web application that interfaces with the YouTube API, allowing for real-time retrieval and display of video titles, comments, and metadata.
- Implemented Google's cutting-edge Language Model (LLM) to automatically summarize video content, providing users with concise overviews and facilitating Q&A interactions related to specific videos, enhancing user engagement and understanding.

Android & iOS Ride Sharing app | *Swift, SwiftUI, Kotlin, XCode Cloud, Firebase, Git*   Sep 2023 – Present

- Spearheaded the development of a cross-platform ride-sharing app, designed for iOS using Swift and SwiftUI, and Android using Kotlin. Both platforms are seamlessly integrated with a Firebase backend.
- Devised and executed an innovative algorithm to optimize ride-matching, which effectively reduced wait times and enhanced the overall ride capacity.

Assembly Calculator | *Assembly, C*   February 2022

- Designed and developed a robust C code compiler, adeptly translating high-level C logic into efficient Assembly code.
- Implemented a robust syntax interpreter and arithmetic logic unit (ALU) to flawlessly replicate the functionality of C-based mathematical expressions.

TECHNICAL SKILLS

Languages: Python, C, C++, SQL, R, Java, Swift, Kotlin, C#, Assembly, HTML, CSS, JavaScript, LaTeX, Dafny
Frameworks: AWS, Git, React, RShiny, Node.js, Valgrind, Firebase, Xcode Cloud, Visual Studio, Eclipse
Libraries: Pandas, Flask, Selenium, BeautifulSoup, Requests
Relevant Coursework: Algorithms, Data Structures, Computer Organizations, Database Systems,Principles of Software, Intro to Artificial Intelligence, Modern Binary Exploitation, Computational Geometry, Software Design and Documentation, Multi-variable Calculus, Linear Algebra and Matrices