JUSTIN RAMIREZ

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Education:

California State University, Fullerton | Bachelor's Degree of Science in Computer Science | Expected: December 2025

Mount San Antonio College, Walnut | Associate's degree for transfer | Mathematics | Completed May 2023

Related Course Work:
Software Engineering (362)
Algorithm Engineering   File Structure and Databases
Front-End/Back-End Web Development
Big Data & Data Science   Data Structures
Cyber Security   AI/Machine Learning

Technical Skills:
Programming Languages: C++, Python, Java, HMTL, CSS, JSON, SQL, PHP, R/RStudio

Developer tools: Git, GitHub, VSCode, Jira, Unix/Linux environments.

Work Experience:

Edwards Lifesciences| Sponsorship| In Progress

- Working close with a biomedical engineer from Edwards Lifesciences to automate differential calorimetry data.

- Developed a **Python** and **MATLAB**-based script for automated data analysis for a Differential Scanning Calorimeter (**DSC**) test, which measures phase transformation temperatures for various materials that undergo shape memory and phase transformations to ensure quality and reliability.

- Model and analyze material behaviors during phase transformations, processing speeds data that were twice as fast as traditional manual **data analysis**, extracting key transformation temperature information and converting the results into detailed reports.

Project Experience:

Automation Analysis of Calorimetry Data | Fall 2024 to Present

- Primary Objective: Automate DSC data analysis by developing a Python script to batch extract primary Nitinol phase transformation temperatures and enthalpies from test data and generate reports.
- Secondary Objective: Develop additional module to separate overlapping phase transformations to extract all phase transition temperatures
- Third objective: Create a user-friendly UI

Titan Lock | Spring 2024

- Developed and deployed a cross-platform password manager using **python** in a **Linux-based system**, to ensure OS compatibility, enabling a classroom of 35 students to use it seamlessly on launch day.
- Implemented a user-friendly graphical interface using the **TKinter GUI toolkit**, providing an easy user experience, which increased accessibility and ease for non tech savvy individuals.
- Engineered secure local storage for user profiles by hashing data with salted encryption, requiring a 16-character alphanumeric string. This design protects against brute force attacks by increasing complexity of password combos.

School Database | Summer 2024

- Creating an **Entity-Relationship (ER) diagrams** and **Relational Models** to Develop and host a dynamic webpage using **HTML**, **PHP**, and **Python** to provide seamless access to the school's **database** for administrators and staff.
- Utilized Python for front-end development, creating a responsive user interface, and **SQL** for backend data management, ensuring efficient querying, retrieval, and modification of school records.