Jericho Referente

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EDUCATION

- **University of California, Davis** — Davis, CA
  Bachelor of Science in Computer Engineering — *Sep. 2018 – Dec. 2022*

EXPERIENCE

- **Broadcom** — San Jose, CA
  Software Quality Engineer — *November 2023- November 2024*
  - **Task Development**: Learned internal framework and wrote automation scripts for reproduce test scenarios. Worked with other developers to make reusable code across the teams in our department. Also wrote helper scripts to allow process to be as automated as possible.
  - **Release Cycles**: Participated in contributing data and reporting errors in weekly release cycles with automated tests. Able to gather information about internal tools to be able to troubleshoot problems with devices being used and help others.
  - **802.11 Knowledge**: Able to gain knowledge on 802.11 through hands on experience with APs and test processes which test defined protocols within the standard.

- **Protempis** — Sunnyvale, CA
  Software Development Engineer Intern — *Jan 2023 - November 2023*
  - **Testing Framework**: Implemented webscraping solution for all pages of the GUI of product using selenium. Mapped out logic for tables of data using devtools. Used Python unit testing with pexepect to spawn processes and compare values of CLI of product to scraped values under specific scenarios.
  - **Bug Fixes**: Identified and fixed UI issues in product pages, and was able to familiarize self with framework being used thanks to previous experience with web development.

- **Fereidouni Lab** — Sacramento, CA
  Software Developer — *Oct 2022 - April 2023*
  - **Image Processing**: Began by learning the basics of image processing with **bitmaps** in **Visual Basic**, transforming images using color filters.
  - **Analyze and Auto Focus**: Refactored and optimized code for microscope Analyze function by finding bottleneck threshold where microscope was finding focus and oversampling. Improved auto focus functionality by calculating the focus based on the euclidean distance of the nearest 3 analyze boxes
  - **Code Migration**: Worked with dlls and SDK documentation to allow code to be written in Visual basic, while calling on C code from original product. Found that the code could only be supported on 32-bit systems, and refactored existing code to run on that.

PROJECTS

- **DaviScout**
  Introduction to Web Development and Fullstack
  - Website using **HTML**, **JavaScript**, and **CSS** for users to leave reviews for restaurants in Davis.
  - Designed frontend with **Bootstrap** to create a responsive interface to facilitate seamless form control.
  - Connected **MongoDB** with **Node.js/Express** for **CRUD** functionality, and designing a **Router** file.
  - Used **Mongoose** for **Schema Design** and implemented **Authorization and Authentication** via Passport.
  - Used **MapBox API** to plot restaurant locations; addressed common security issues by **Sanitization**

- **UDP Congestion Control**
  Networking Project focusing on Transport Layer Delivery
  - Designed a reliable data delivery service using **UDP** sockets in **Python** by varying the methods of sending and receiving packets of data based on **duplicate acknowledgements** and **timeouts**.
  - Improved/tested UDP protocol through different delivery methods such as **Stop and Wait**, **Static Sliding Window**, **Dynamic Sliding Window**, eventually making a custom congestion control algorithm which improved throughput and outperformed a TCP Tahoe implementation.
  - Measured improvements in performance through calculation of average **tper-packet delay/throughput**.

Programming Skills

- **Languages**: Python, HTML, JavaScript, CSS, C++, C, Kotlin, MATLAB, Visual Basic
- **Frameworks/Libraries**: Bootstrap, Node.js/Express, React
- **Technologies**: Linux/Ubuntu, Git, REST APIs, MongoDB, Mongoose, Docker, SQLite