

CHRISTIAN VELASQUEZ

Los Angeles, CA

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Education

University of Colorado Boulder

M.S. Electrical & Computer Engineering

May 2025 – Present

Remote

University of California, San Diego

B.S. Computer Engineering

Sep 2019 – Jun 2024

San Diego, CA

Experience

Outlier AI

Prompt Engineer

May 2024 – Present

San Diego, CA

- Created and reviewed mathematical prompts and coding algorithms, delivering modified training data and enhancing client comprehension of AI solutions utilizing Jupyter Lab software.
- Evaluate and rank AI-generated responses over 5 different benchmarks to promote accuracy across 10+ domains.
- Collaborated with development teams to refine prompt responses and overall LLM performance in 5+ industries.

San Diego Super Computer Center

Software Engineer Intern

Jun 2021 – Sep 2021

San Diego, CA

- Constructed mobile application designed to monitor fitness accomplishments, tracking 10+ user metrics.
- Collaborated with 6-person cross-functional team in an Agile environment, participating in biweekly sprints, daily stand-ups, and iterative testing to guarantee continuous development of high quality software.
- Architected and implemented the back-end infrastructure with Google Cloud Firestore, optimizing data retrieval pipeline, improving application response time by 20%.

Projects

YouLostIt BLE Sensor | C / C++, STM32, Logic Analyzer

Nov 2023

- Designed and developed a privacy-preserving battery-powered BLE sensor using the STM32L4 MCU Family, enabling real-time location tracking with a battery life of up to 4 weeks.
- Engineered optimized firmware designed to manage BLE communication, LED indicators, and collect location data, reducing power consumption by 35% compared to initial benchmarks.
- Conducted extensive debugging and validation using a Digital Logic Analyzer, identifying and resolving mission-critical bugs that improved sensor accuracy by 20%.
- Utilized a digital logic analyzer to validate and debug sensor data, ensuring accurate and reliable performance of the device, particularly in enabling and communicating over Bluetooth Low Energy (BLE).

Russia-Ukraine's Impact on Gasoline Pricing | Python, BeautifulSoup, Seaborn

Mar 2023

- Developed and executed web scraping scripts to collect 2800+ data points across 3 different time periods with respect to nearly every country in the world for comprehensive exploratory data analysis.
- Cleaned and normalized 2500+ data points leveraging log scaling, Z-score normalization, and cube root transformations to filter for extraneous observations; created detailed visualizations to communicate key patterns and findings.
- Deployed Mann-Whitney U and KS tests in Python to conduct statistical analyses and isolate significances in distributions across groups; compared results with control data sets to identify differences and validate findings.

CPU Design | SystemVerilog, RTL Design, ModelSim

Jan 2023

- Constructed high-level behavioral diagram outlining processor specifications and interactions for each data bus.
- Isolated and tested individual processor components using test bench modules written in SystemVerilog, ensuring accurate and reliable project implementation through isolated verification.
- Developed a suite of sample programs targeting the processors instruction set, showcasing its versatility and robust performance in handling multiple types of instructions and operations.

Relevant Coursework

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|-------------------------|-----------------------|---------------------|---------------------------|
| • Embedded Systems | • Data Structures | • Operating Systems | • Parallel Computing |
| • Computer Architecture | • Algorithms Analysis | • Computer Security | • Artificial Intelligence |

Technical Skills

Languages: C, C++, Python, Bash, SystemVerilog, VHDL, ARM, SQL, Javascript, HTML

Technologies: ModelSim, Quartus II, CUDA, Git, Github, GDB, Nginx, React, Firebase, Google Test

Tools : STM32, PSoC, ESP32, Oscilloscope, Waveform Generator, Digital Logic Analyzer, Multimeter