Mateus Behrend

San Diego, CA — 858-381-7195 — mateus22@g.ucla.edu — linkedin.com/in/mateus-behrend

Objective — UCLA junior seeking internship in low-level hardware programming or software development. Passionate about problem-solving, collaboration, and learning new technologies.

Education

University of California, Los Angeles **Sep 2022 - June 2026**
Bachelor of Science in Computer Engineering, GPA: 3.6/4.0

Relevant Coursework: Computer Architecture, Operating Systems, Internet of Things, Algorithms & OOP, Software Design, Internet Programming, Circuits, Logic Design, Linear Algebra, Systems & Signals. By Summer '25: Computer Networks, Programming Languages, Algorithm Complexity, Data Science, Statistics

Experience

Sandia National Laboratories
R&D Computer Engineering Intern (Year-round, Remote) **Sep 2024 – Present**
- Providing engineering and programming support in research and analysis: performing signal processing of electromagnetic waves and analyzing data spectrograms using a machine learning algorithm

R&D Computer Engineering Intern (Summer, Onsite) **June 2024 – Aug 2024**
- Assisted in the migration of a machine learning analysis program. Responsibilities included troubleshooting and documenting the setup process, creating a Python script to simplify package installation, and extending the machine learning code's functionality by developing an HDF5 file reader program
- Evaluated systems designed to analyze electromagnetic waves. Completed the inventory and configuration files for a system's metadata

Axiom Analytics **Aug 2024 – Present**
Associate Backend Software Developer (Part-time, Remote)
- Providing backend software support at Axiom Analytics, an accounting firm. Responsibilities include optimizing application performance, managing databases, and troubleshooting software
- Developing a user interface (UI) that allows users to run Python scripts from the server instead of using the command line interface (CLI), thereby improving accessibility for non-developer employees
- Working with both a production database and a local database in a Dockerized container
- Created a Python script to retrieve closed purchase orders from the company's database, significantly improving the efficiency of an accounting algorithm by approximately 2000%
- Fixed a bug in a Python script related to encumbrances, improving user access to accounts

Projects

disCHORD
- Developed a collaborative web application designed to enable real-time chatting and music streaming among users.
- Improved application security and user experience by creating an authentication page and preventing unauthorized access attempts.
- Leveraged the Spotify API and ChatGPT API to enhance user experience by integrating a music streaming platform and streamlining the music recommendation system.

Pocket Racers (in progress)
- Building an autonomous miniature car equipped with integrated sensors and cameras for navigating a track using computer vision. Training data will be collected by driving the car around the track, and a neural network will use this data to make navigation decisions.

Movie Recommendation App
- Built a movie recommendation app in C++ that calibrated recommendations using database records of watched movies and generated a scoring system based on movie categories. Utilized binary search trees to improve search efficiency.

Electronic Car
- Designed an electric motor-driven car to navigate a track using an optical sensor for line detection. Programmed Python in Arduino for sensor fusion and implemented a PID control algorithm, enabling the car to handle turnarounds, curves, track gaps, and varying acceleration.

Skills

Languages C++, C, Python, x86-64 assembly language, Verilog, Bash, PHP, JavaScript, MySQL, HTML5, CSS
Libraries ReactJS, Pandas, NumPy
Tools Git, GitHub, Emacs, Linux, Open MP API, Docker, VS Code, Arduino, STM32CubeIDE, Matlab, Excel