ENRIQUE ARANDA

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OBJECTIVE

Fourth-year Computer Science undergraduate seeking a full-time position at a medium-sized company as a Software Engineer or Machine Learning engineer in the biological or neuroscience field.

EDUCATION

University of California, San Diego — **La Jolla, CA**

Bachelor of Science in Computer Science, Minor in General Biology — Expected June 2026

GPA: 3.0/4.0

Relevant Coursework: Computational Neuroscience, Data Structures and Algorithms, Computer Architecture

SKILLS

Languages: Python, C, C++, SystemVerilog, ARM assembly, Java, HTML, CSS, JavaScript, SQL, TypeScript

Developer Tools: Git, VSCode

Framework: React, Node.js, JUnit

Libraries: NumPy, pandas, Spotify API, Scikit-Learn, Matplotlib, miditoolkit, PyTorch, FluidSynth, TensorFlow, LibEMG

PROJECTS

EMG Prosthetic Hand — October 2025 – Present

- As one of the programming experts, I guided my team on designing an RNN model that would classify gestures for our prosthetic hand to imitate
- I implemented the Long Short-Term Memory (LSTM) model using TensorFlow and applied Grey-Wolf Optimization to improve signal classification accuracy for noisy EMG data

Custom Reduced Instruction Set Computer (RISC) Processor — July 2025 – August 2025

- I led the project by outlining our RISC processor architecture with fixed 9-bit instructions and 8-bit data for eight general purpose registers
- I helped my teammate assemble our processor components in SystemVerilog and I created a Python-based assembler to convert ARM functions into the processor's custom machine code
- We successfully implemented a functional custom processor and its toolchain in one month, allowing the execution of machine instructions from ARM functions to produce desired outputs

Music Generation with Recurrent Neural Networks (RNNs) — May 2025 – June 2025

- I designed a symbolic music generation model for my team using RNNs with Musical Instrument Data Interface (MIDI) datasets as input
- I helped incorporate miditoolkit to extract musical features from data such as pitch, duration, note sequences
- I improved the RNN model's accuracy by 12% through hyperparameter optimization and our final result was a unique piece of music

Moody Melodies — September 2024 – December 2024

- I led the backend development of our React app, which aimed to input a user's feelings and desired instruments to produce a playlist using Spotify API catered to their feelings
- I designed a recommendation system by mapping specific feelings to parameter values on the Spotify API
- I mentored teammates on the functionality of Spotify API to bridge the frontend to backend to complete a swift, deployable product with quality results

ORGANIZATIONS

Big Back Club - Co-Founder

Triton NeuroTech - Project Member

Society of Hispanic Professional Engineers - Member