Enrique Aranda Jr.

Computer Science Undergraduate

Trilingual, first-generation student at UC San Diego with a passion for Computational Neuroscience. Web Developer and Machine Learning Engineer striving to make an impact.

Contact

enriquearandajr@gmail.com
enriquearanda.com
San Diego, CA

Education

UNIVERSITY OF CALIFORNIA, SAN DIEGO
BS, Computer Science
Minor, General Biology
PRESENT-2026

Technical Skills

Languages:

Java, C/C++, C#, Python, SQL, HTML/CSS

Framework:
JUnit, React, Node.js

Developer Tools:
VSCode, Git

Architecture:
ARM, SystemVerilog

Libraries:
NumPy, pandas, Spotify API, Scikit-Learn, Matplotlib,

Projects

CUSTOM RISC PROCESSOR
Python, ARM, Assembly, SystemVerilog, C
July 2025 – August 2025

Collaborated with a teammate to develop a Reduced Instruction Set Computer (RISC) processor under specific constraints such as fixed 9-bit instructions and 8 general purpose registers storing only 8 bits of data. In one month, we assembled components in SystemVerilog for the processor and created an assembler that would convert our ARM functions into machine code that our processor would then use to provide output.

MUSIC GENERATION WITH RNNS
Python, PyTorch, miditoolkit, FluidSynth
May 2025 – June 2025

Worked in a team of 4 to design and implement a symbolic music generation model using Recurrent Neural Networks (RNNs) trained on MIDI datasets. We extracted features such as pitch, duration, and note sequences using miditoolkit, and trained the model to predict tokenized note sequences with a language modeling objective. Used libraries at our disposal such as PyTorch to refine our model and generate MIDI files that we then converted to .wav files using FluidSynth.

MOODY MELODIES
HTML, CSS, React, MongoDB, Spotify API
Sept 2024 – December 2024

Worked in a team of 7 using software development tools we learned in class to create our React web app, Moody Melodies. Students can create an account and fill out a survey to receive a playlist based on their current mood. We achieved this using the

miditoolkit, PyTorch, FluidSynth

Clubs

Big Back Club – Co-President

Triton NeuroTech – Member

Society of Hispanic Professional Engineers - Member

Spotify API to implement a recommendation system where a certain emotion is linked to certain parameters that would return an appropriate list of songs.

UCSD CAPES MACHINE LEARNING EXPLORATION
Python, pandas
Jan 2024 - Mar 2024

Worked in a team of 10 using the machine learning methods we learned in class to investigate the relationship between several classroom metrics and their effects on student success. We used deep neural networks to derive data from UCSD's Course and Professor Evaluations database and display a predictive model that would highlight certain patterns that would not normally be found.