SCOTT FIGUEROA WESTON

ELECTRICAL ENGINEERING STUDENT AT UCSB

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EDUCATION

UC SANTA BARBARA

B.S. Electrical Engineering

- 4.00 GPA

SKILLS

ELECTRICAL

- **Soldering** components onto PCBs
- PCB design using **KiCad**
- **Wiring**
- Proficient with **oscilloscopes** and **multimeters**

SOFTWARE

- MATLAB
- LTspice
- KiCad
- C/C++
- Python (pandas, matplotlib, librosa, scikit-learn, openCV)
- JavaScript/React
- Java
- Linux

PROJECTS

BLE RUBIKS CUBE

- An interface to track the movement of Bluetooth Rubik's Cubes using the ESP-32 microcontroller.

STACKER ARCADE GAME

- Implemented Arduino stacker game using LED matrix and push button.
- Designed schematics using **LTspice**
- **Soldered** components to Arduino Proto Shield
- Wrote software for core game functionality using **C++**

EXPERIENCE

MATH DRP | Computer Vision Researcher | Santa Barbara, CA

Jan 2023 - Present

- Worked with a graduate student in the UCSB math department in reading algebraic geometry texts and academic papers
- Gained insight into algebraic geometry concepts such as Ideals, varieties, manifolds, projective space, gröbner bases and various proof techniques
- Analyzed how to find intersection of geometric objects in 3D space
- Used knowledge of projective space to research techniques of 3D reconstruction from 2D images

SIMS | Engineering Research Intern | Santa Barbara, CA

Aug - Sep 2022

- Worked with a team to design a soft robotic arm using plastic sheet and pneumatic tubing
- Analyzed contraction of soft robotic arm using python and created data visualizations with pandas library to modify design
- Used **C++** to program Arduino Nano to create electronic system that caused robotic arm to contract upon human touch
- Presented design to panel of professionals using PowerPoint

EXTRACURRICULARS

IEEE

Oct 2022 - Present

- Designed circuits for digital clock and ran simulations using **LTspice**
- Used breadboard to create NAND, NOT, NOR gates to build a two bit adder
- Designed PCBs using **KiCad**

DATA SCIENCE CLUB

Nov 2022 - Present

- Built machine learning model to detect emotion from speech
- Used librosa **python** library to perform audio analysis on a set of audio files
- Used **sci-kit learn** to train machine learning model to classify emotion from audio data
- Converted audio to text and performed sentiment analysis using natural language processing models.
- Built full-stack website to classify emotion of audio clips using React