Dylan Reimer

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EXPERIENCE

Electrasound Modular — *Founder and CEO*
AUGUST 2018 - PRESENT

- Founded modular synthesizer business, shipping modules state-wide.
- Soldered and calibrated synthesizer circuits, programmed microcontroller / DAC systems to generate and manipulate sound.
- Coordinated with consumers to refine functionality and feature set.

CalSol Solar Car Team — *Project Lead*
AUGUST 2019 - JANUARY 2021

- Designed schematics, created efficient PCB layouts, and developed microcontroller firmware.
- Utilized multiple different communication protocols to communicate with other subsystems.
- Created test bench system to stress test vital components of the solar car.
- Worked in a team to develop and present design criteria reviews and preliminary design reviews.

PROJECTS

DrummerBoy
- Designed a hardware drum machine around Google Magenta's MusicVAE machine learning model.
- Wrote firmware for Teensy 3.2 and developed display UI.
- Utilized potentiometers for user input and data manipulation, and Teensy's onboard DAC for audio.
- Iterated through hardware layouts to maximize playability.

Eurorack Modules
- Built hundreds of synthesizer modules for both business and personal use.
- Created and marketed original interpretation of the Ornament and Crime open source module.
- Designed elaborate FR4 faceplates using Adobe Illustrator and KiCad.

Pressure Differential & Inclinometer Sensor Board
- Wrote schematic and designed PCB layout for a board to read wind speed and tilt.
- Programmed firmware to capture sensor data and send over CAN communication network.
- Utilized specifications of sensors and other sub-boards in design process.

Enigma Emulation
- Wrote a fully functional Java emulation of the Enigma code machines used in WWII.
- Used object-based programming abstractions and hashmaps, arraylists, queues, stacks.
- Developed extensive testing framework to ensure consistency.

RollieBot
- Designed and built a fully functional wooden vehicle controlled via bluetooth by mobile device.
- Programmed microcontroller to respond to control input, wired dc motors and battery pack.
- Modeled vehicle in Fusion 360, lasercut parts from plywood.
- Employed a three-stage design process by iterating through models of increasing fidelities.

EnviroDraw
- Created a motorized rotory drawing machine that reponds to changes in light and sound.
- Developed schematic to include thermoresistor and microphone with filtering and scaling.
- Programmed microcontroller to adjust rotary speed based on regular sensor readings.

TEACHING

EECS16B Course Staff — *UC Berkeley*
JANUARY 2021 - PRESENT

- Debugged circuits and reinforced understanding of course material through lab sections.
- Contributed to the course lab curriculum, refining instructions and implementing student feedback.

Student Tutor — *Clovis Community College*
AUGUST 2018 - AUGUST 2019

- Tutored hundreds of college students in algebra, calculus, linear algebra, and college-level physics.
- Participated in state-wide teaching conferences to explore new tutoring strategies.

EDUCATION

B.S. Electrical Engineering and Computer Science — *University of California, Berkeley*
EXPECTED GRADUATION: 2022

Relevant Coursework:

EECS16A/B: Designing Information Devices and Systems I, II

EE105: Microelectronic Devices and Circuits

CS61A: Structure and Interpretation of Computer Programs

CS61B: Data Structures

CS61C: Machine Structures and Computer Architecture

CS70: Discrete Mathematics and Probability Theory

TOOLS

Languages
Python, C, Java, HTML, CSS, SQL, Scheme

Software
KiCad, Arduino, Logism

Design
Figma, Illustrator, Fusion 360

Collaboration
Git, Cadlab

SKILLS

Object Oriented Programming
Firmware Development
PCB Design & Layout
Graphic Design
Prototyping
Teaching
Team Experience

INTERESTS

Music Production
Synthesizers
Fashion
Gaming
Art
Spirituality
Mechanical Keyboards