

Nicholas Alan Maley

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California Polytechnic State University, San Luis Obispo

Bachelor of Science, Electrical Engineering, June 2023;

The Marin School, San Rafael

Vex Robotics World Championships, Semi-Finalist;

Skills

Electrical Design ♦ Electronic Troubleshooting ♦ Circuit Manufacturing ♦ Computer Vision ♦ PCB Design and Fabrication
Mechatronics ♦ Python Coding ♦ Digital and Analog Signal Processing ♦ Datasheet Interpretation ♦ Oscilloscopes
Microsoft Word and Excel ♦ KiCad ♦ Onshape ♦ Microcontrollers (Nucleo Board) ♦ C/C++

Electrical Engineering Experience

Dept. of Veterans Affairs Design Engineer [Senior Capstone Project] 8/2022 – 6/2023

- Designed an audio system to be used by employees and clients in loud office spaces.
- Made custom interfacing for Bluetooth and infrared products.
- Created technical reports and timelines to keep the project on track and within budget.

O'Logic Robotics, Intern [35-50 hours/week] 7/2020 – 8/2020

- Assembled and soldered an industrial testing rig to mass verify PCB integrity.
- Populated dense circuit boards and ran testing, ensuring circuit boards were fully functional.
- Prototyped and designed a wireless cough surveillance device for an asthma attack prevention application.

Robotic Dalek [Passion Project] 5/2018 – Current

- Evolving, multiyear passion project, implementing theoretical classwork into practice.
- Designed and developed an RC robot with wireless voice modulation, self-contained power and drive train.
- Furthered my understanding about larger scale design principles.

Engineering Projects

Smart Battery

- Assembled a BMS, voltage and current monitors and cell balancer into a single system.
- Researched independent components to meet design requirements.
- Built custom housing to address thermal characteristics of the battery.

Voice Modulator

- Broke down pre-existing design into smaller chunks to incorporate into a custom design.
- Researched voice modulator principles and designs for this project.
- Assembled, tested and constructed custom housing for the project.

Arduino Controlled RGB LED Power Supply

- Needed a device to interface an Arduino with LEDs with high power requirements.
- Selected parts to use with a custom PCB designed in KiCad.
- Made a 2nd version with debugging features including a power LED and an on board RGB LED for testing.

Voltage Controlled Oscillator

- Constructed an oscillator that combines the strengths and none of the weaknesses of other oscillator types.
- Broke the project down into smaller and simpler blocks to better incorporate into deadlines.
- Designed, assembled and troubleshooted each block before incorporating into the overall project.

Relevant Coursework

- Electromagnetic Waves
- Electronic Design
- Technical Writing
- Audio Engineering
- Data Structures
- Computer Design & Assembly

- Analog Electric Circuits

- Remote Sensors

- Modern Physics