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 ♦ Mechatronics

♦Documentation ♦PCB Design and Fabrication ♦ Python Coding ♦ Digital and Analog Signal Processing ♦Datasheet Interpretation ♦ Microsoft Word and Excel



***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 **•** Technical Writing **•** Data Structures **•** Electronic Design **•** Audio Engineering **•** Remote Sensors **•** Computer Design & Assembly **•** Modern Physics

**•** Analog Electric Circuits