

# Miguel Manguerra

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## Profile

A fourth-year computer engineering student with extensive electronics product development experience. By leading a team at Ergonomyx technologies, he developed a soon to be released IoT office equipment product. Recently, as co-founder and Electrical Team lead of the UVic Environmental Engineering Club (UVEEC), he oversees the design of the electronics for the club's pilot project, an Unmanned Surface Vessel (USV).

## Education

**Fifth Year Bachelor of Engineering (Computer Engineering), University of Victoria** 

Sep 2018 – Aug 2023 | Victoria, Canada

## Relevant Skills


- Highly advanced experience in designing Printed Circuit Boards in Altium and KiCAD.
- Accomplished at drawing, understanding, and organizing complex electrical schematics.
- Adept in soldering and troubleshooting electronics problems with multimeters, oscilloscopes, and function generators.
- Experience solving challenging electrical design problems while staying within real world constraints.
- Rapid problem-solving skills that involve quick thinking and good research skills.
- Procured all types of components and PCBs from Digikey, Mouser, JLCPCB and, PCBWay.
- Developed custom firmware for STM32F0 and ESP32 microcontrollers using Eclipse and PlatformIO.
- Proficient in C, C++, CAPL, and Python.
- Extensive experience modelling and 3D printing prototype designs in Solidworks and Fusion 360.

## Professional Experience

**Electrical Engineering Co-op, Starfish Medical** 

Sep 2022 – Dec 2022 | Victoria, Canada

- Designed and built custom PCBs for a variety of medical devices.
- Analyzed analog and digital circuits using electronics lab equipment.
- Developed documentation in accordance with requirements of ISO 13485 and IEC 60601.
- Performed experiments to determine the most appropriate path forward to developing a reliable and safe medical device.

**Electronic Prototype Engineering Co-op, Ergonomyx Technologies** 

Sep 2020 – Aug 2021 | Victoria, Canada

- Led a team of four to develop and prototype a universal smart desk controller that can control any type of existing motorized sit stand desk.
- Designed a USB-A charging PCB that could charge a smart phone or an iPad from the power generated by a user's pedaling.

**Product Designer - Software,**

**Dometic (formerly SeaStar Solutions)** 

Jan 2020 – Apr 2020 | Vancouver, Canada

- Performed system level testing on electronic systems with complex CAN networks.
- Analyzed data recorded on CAN buses using Vector's CANalyzer.

## Community Involvement


**University of Victoria Environmental**

**Engineering Club, Electrical Team Lead** 

Sep 2021 – Sep 2022 | Victoria, Canada

- Designed a Smart Power Board that monitor and control four different power lines.
- Led the design of the USV's plethora of electronics, including the Central Controller Board, and its custom built 6S 9P battery.

## Projects

Some of Miguel's current projects include an open source Smart Programmable Load and a Voron 2.4 3D printer. For more information about his projects visit his project portfolio at the link attached: 

## References

Available upon request