Miguel Manguerra

✉ migoymanguerra@gmail.com

📞 778-977-9021

in https://www.linkedin.com/in/miguelmanguerra/

🏹 https://miguelmanguerra.vercel.app/

📍 Victoria, Canada

🪪 Profile

A fifth-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