Erion Keka

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Education

McMaster University **September 2022 – May 2026**
Bachelor of Engineering in Electrical Engineering *Hamilton, Ontario*

Skills

Languages: Albanian, English, French
Programming: C/C++, MATLAB, Python, R, Verilog
Hardware: Arduino, FPGA, Function Generator, Multimeter, Oscilloscope, Raspberry Pi
Software: AutoCAD, Diligent Waveforms, GitHub, KiCAD, Linux, LTSpice, OrCAD, ROS, stm32Cube, Visual Studio

Experience

Jitterware **January 2025 – Present**
Electrical Engineering Intern *Etobicoke, Ontario*

- Designed and developed electrical systems, circuits, and PCB layouts using KiCAD and stm32CUBE.
- Built and tested prototypes, troubleshot systems, and optimized designs for improved performance and efficiency.
- Collaborate with cross-functional teams to meet project deadlines, document progress, and provide technical reports.

Mathnasium **April 2024 – January 2025**
Assistant Director *Hamilton, Ontario*

- Led and motivated a team of 6 instructors to effectively deliver personalized instruction to individual students, improving student retention by 25%.
- Responsible for generating sales by responding to leads and successfully enrolling students, demonstrated through a 40% increase in student enrollment.
- Fostered relationships with students and parents by providing exceptional customer service and communication of student progress.

Projects

ControlCore | *C/C++, ESP32 MCU, I2C/UART* **January 2025**

- Designed a system monitoring and media controller making use of an ESP32 micro-controller and an OLED display.
- Used C/C++ to integrate an ESP32 micro-controller with the display leveraging I2C/UART communication protocols.
- Implemented a custom graphical user interface (GUI) with dynamic button layouts and easy navigation for seamless user interaction.

Spatial Mapping Device | *C/C++, I2C/UART, Python, STM32 MCU* **April 2024**

- Developed an efficient LiDAR-powered spatial mapping device for indoor spatial mapping.
- Used C/C++ to integrate an STM32 micro-controller with ToF sensors and I2C/UART communication protocols for accurate distance measurements and data transfer.
- Implemented Python scripts for data visualization and performing spatial measurements.

Digital-to-Analog Converter | *Circuit Design, Function Generator, OrCAD, Oscilloscope* **February 2024**

- Designed an 3-bit DAC using a transistor-resistor network to convert digital inputs into proportional analog voltages.
- Determined bit weights based on full-scale voltage ratio and the number of possible digital values.
- Implemented a resistive network with an inverting unity-gain buffer to produce precise analog output from digital inputs.

Leadership / Extracurricular

McMaster RoboSub **November 2024 – Present**
Founder & Electrical Team Co-Lead *McMaster University*

- Established a team of 20+ students to design an autonomous underwater vehicle (AUV) for the international RoboSub competition, overseeing both technical and organizational aspects of the team.
- Spearheaded research on autonomous underwater vehicles focusing on electrical system design and sensor integration.
- Organized information sessions and workshops to introduce students to the RoboSub team's mission and objectives.

IEEE McMaster Student Branch **January 2024 – September 2024**
Python Sub-Team Member *McMaster University*

- Actively contributed to Python-related workshops and projects.
- Provided mentorship and support to new members, fostering a collaborative and inclusive learning environment.