

Djordje Kokot

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EDUCATION

McMaster University

Hamilton, ON

Bachelor of Engineering in Mechatronics Engineering – With Distinction | GPA: 3.6/4

May 2026

PROJECTS

Data Acquisition PCBs “OZYS V3” + “Epsilon” | *Rust, KiCad, Git, Simulink*

Nov 2024 to Aug 2025

- Performed full schematic capture, component selection, layout, and routing of 2 PCBs
- Developed firmware using Rust and the Embassy embedded async framework
- Designed OZYS V3, a custom STM32G474-based strain measuring DAQ board that pairs with up to 4 Epsilon boards that amplify a strain gauge signal to measure the relative deformation during rocket flight
- OZYS used DMA to read 4 ADCs at 22kHz and save readings to an SD NAND over SPI minimizing task overhead
- OZYS used an isolated CAN bus to communicate to external avionics ensuring board failures remain isolated
- Implemented USB CDC (Full-Speed) to easily stream logged data from OZYS to a host PC
- Simulation of analog section in Simulink for purposes of validation and verification of proper performance
- Successfully logged relative strain measurements during launch on the board’s first flight

Custom Stepper Motor Controller Board | *C, KiCad, Git*

Oct 2025 to Mar 2026

- Developed the hardware for a custom STM32G431-based motor driver for a NEMA 23 stepper motor
- Wrote the low-level drivers in C and achieved open-loop control using the DRV8844 quad half-bridge driver
- Integrated an MT6816 absolute magnetic encoder communicating over SPI for position feedback
- Developed as part of “RoCam” a canceled team rocket tracking project for Launch Canada 2026

“Blend-IQ” Smart Smoothie Machine Capstone Project | *C++, Git*

Sep 2024 to Apr 2025

- Designed the controls and firmware for an ATmega2560-based smart blender that was capable of dispensing, measuring, and blending a user selected combination of fruit and liquid from a touchscreen interface
- Implemented a custom load dispensing mechanism using a COTS load cell and amplifier peripheral that communicated over I2C to weigh the cup, and a Hall-effect sensor to count the rotations of the dispenser
- Actuated the BLDC blending and dispensing mechanism using ESCs and RC PWM

EXPERIENCE

Rocketry Controls Sub-Team Member

Sep 2024 to Present

McMaster University

Hamilton, ON

- Wrote the firmware for a flight-tested backup data logging board “VLMini” in Rust using Embassy, responsible for saving IMU readings to SD NAND using DMA and SPI
- Assisted the PCB schematic capture and routing of 5 competition tested boards
- Led a workshop introducing the basics of PCB design and embedded Rust to new team members
- Performed hardware-in-the-loop and software-in-the-loop simulation and testing of avionics

Quality Control Engineering Co-op

May 2023 to Jan 2024

Ontario Chrome Plating Inc

Oakville, ON

- Conducted quality inspection and management of aircraft and nuclear parts that were to be serviced
- Modeled various mechanical parts and assemblies with their required tooling and fixtures in SolidWorks
- Created detailed work orders, and provided timely part status updates and quality-inspection reports for clients

Teaching Assistant 1P13

Sep 2022 to Dec 2022

McMaster University

Hamilton, ON

- Guided students in a multi-disciplinary engineering course teaching software, CAD, and materials science
- Assessed Python programs, Autodesk Inventor parts, and simulations of 40-50 students every week

TECHNICAL SKILLS

Languages: C, C++, Rust, Python, MATLAB/Simulink, Verilog

Developer Tools: Git, GDB, SWD, VS Code, Eclipse, STM32CubeIDE, Logic Analyzer, Oscilloscope, DMM

CAD Tools: KiCad, Autodesk Inventor, Autodesk Fusion, SolidWorks, Onshape