TOMAZ ZLINDRA

ELECTRICAL ENGINEERING STUDENT

TECHNICAL SKILLS

Firmware & Embedded: Bluetooth, WiFi, Serial, Timers, PWM: (STM32, ESP32, Raspberry Pi, Arduino)
Programming Languages: C, C++, Python, SV
Software Libraries: POSIX, MQueue, uORB, MAVLink, TF, TF Lite, PyTorch
Tools & Workflow: Git, GitHub, Bash, Linux/Unix, Docker

RELEVANT WORK EXPERIENCE

System Simulation Engineering Co-op | Intel Corporation   September 2025-April 2026
- Wrote SystemC-based software models of digital IP and SoC components to simulate hardware behavior and enable early firmware development and system validation.
- Partnered with firmware engineers to integrate and test models in real-world development workflows, contributing to bug resolution, feature implementation, and performance tuning.
- Enhanced simulation infrastructure by improving test coverage, streamlining build/debug workflows, and providing support to internal teams using the models.

Flight Control Firmware Developer | Genist Systems   May 2025-Aug 2025
- Developed PX4 flight control firmware in C++ on NuttX to configure custom MAVLink messages for real-time LiDAR-based path planning, enabling autonomous navigation in rotor-in-wing search and rescue drones.
- Implemented a winch control system using NuttX on ESP32, communicating wirelessly with a separate embedded board in the stretcher via TCP for synchronized patient retrieval and deployment.
- Leveraged advanced Linux terminal skills and custom Bash scripting to automate embedded system startup, configure NSH tasks, and control NuttX-based runtime behavior.
- Applied model-based design in MATLAB/Simulink to generate flight dynamics code, integrated it with PX4 SITL for testing, and fine-tuned PID control loops under diverse simulated flight conditions.

EDUCATION

Bachelor of Applied Science, Electrical | University of British Columbia (UBC)   September 2022 - April 2027

ENGINEERING DESIGN TEAMS

Hardware and Firmware Lead | UBC Supermileage   September 2023-present
- Led a team of 3+ electrical general members in multiple parallel engineering projects. Tasks included conducting applicant interviews, weekly project checkups and design reviews, explaining electrical concepts, etc.
- Mentored junior team members to conceptualize and produce PCBs, usually related to motor control, battery management, data collection boards (embedded systems) to improve old designs

Firmware Developer | UBC Formula Electric   September 2022-August 2023
- Developed safety-critical algorithms for electronic fuse monitoring and automated shutdown during electrical faults to enhance driver safety.
- Programmed CAN communication of PDM fault states to the central processor, enabling system-wide fault response.

PROJECTS

These are listed on my website, found here: https://tomazzlindra.com/