Dominic Rousseau (he/him)

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Skills

- **Programming Languages:** SystemVerilog, C/C++, Python, ARM Assembly, PLC Ladder Logic, Java, JavaScript
- **Software Tools:** Git, Android Studio, Quartus, Docker, Bash, PlatformIO, TimescaleDB, Figma
- **Libraries:** NumPy, Pandas, Matplotlib
- **Hardware:** Raspberry Pi, Arduino, ESP32, Embedded Systems Development, Soldering, Hardware Debugging

Education

University of British Columbia   *September 2022 - Present*
Bachelor of Applied Science, Computer Engineering

Engineering Design Team Experience

- **Captain** - UBC Biological Internet of Things (BIoT)   *May 2024 - Present*
  - Led 30 member team through full structural transition, ensuring continuous project development
  - Secured $5,500 in funding through successful grant applications for applied fermentation R&D project
- **Instrumentation Lead** - UBC Biological Internet of Things (BIoT)   *September 2022 - April 2024*
  - Introduced GitHub workflows
  - Built modular, low-cost instrumentation tools to monitor pH, temperature, and dissolved oxygen content
  - Networked ESP32s and Arduinos for real-time sensor data collection and display **Grafana** and **TimescaleDB**

Work Experience

- **Construction/Paint Labourer** - IATSE/ACFC, Vancouver   *May 2022 - August 2024*
  - Safely loaded and unloaded film props, ensuring zero damage and on-time setup for high-budget productions

Projects

- **Virtual Fridge Android App - Grocery Tracker** - Team Project
  - Deployed a full-stack Android application to AWS
  - Configured cloud infrastructure and environments to support scalable backend services using Docker
  - Integrated Google Gemini API for produce recognition
  - Established CI/CD pipelines on GitHub with Codacy, achieving a barcode retrieval in under 3 seconds
- **PLC Ladder Logic - Traffic Lights Finite State Machine** - Personal Project
  - Designed and implemented a finite state machine in Ladder Logic to simulate a real-world traffic light control system
  - Integrated timers and counters to enforce cycle durations and track the number of times the green light activated
- **Self-Hosted Cloud & Game Server Infrastructure** – Personal + UBC ECESS
  - Enabled secure, remote access to 100GB+ of files across devices by running a Nextcloud instance on Ubuntu Linux
- **Cluck Guard** - Personal Project
  - Engineered a battery-powered door for a chicken coop, programmed in C++ and powered by a servo and photoresistor
  - Published comprehensive open-source build guide on GitHub, enabling replication and reuse by hobbyists and makers

Volunteer Experience

- **Vice President, Student Life** - Electrical and Computer Engineering Student Society   *May 2025 – Present*
  - Organize orientations, game nights, and professional mixers for the department's undergraduate students
- **Server Infrastructure Manager** - Electrical and Computer Engineering Student Society   *November 2024 – Present*
  - Self-host and maintain a Minecraft server for 20 people, replacing paid third-party hosting
  - Automated boot, backup, and crash recovery processes using Bash scripting and systemd on Ubuntu
  - Manage network configuration including port forwarding, firewall rules, and DNS to ensure 24/7 secure remote access
- **Creative Manager** - Engineering Undergraduate Society (UBC)   *September 2022 - April 2024*
  - Composed patches, sports team logos, magazine covers, and posters for the Engineering Undergraduate Society drop sales for special edition items
- **Computer Electronics Repair Volunteer** - SPEC Repair Cafe   *February, 2023 - Present*
  - Fix and service electronic devices for members of the public

Hobbies & Interests

- **Hockey** - Developed teamwork, discipline, and the ability to perform under pressure through years of hockey experience
- **Motorcycling** - Ride and maintain motorcycles and dirt bikes, with hands-on mechanical experience
- **Personal Electronic Projects** - Design and solder DIY guitar pedals, gaining hands-on PCB and circuit experience