Margaret Lee

✉ margaretmichelle6@gmail.com | 📁 margaretmichelle.github.io | in linkedin.com/in/lee-margaret

EDUCATION

University of British Columbia | Vancouver, Canada ⸱ *09/2020 – 05/2026*
Engineering Physics, BASc
CGPA: 4.00/4.33, Awards: Roy Nodwell Memorial Prize (2025), Dean's Honour List (2020-2025), Trek Excellence Scholarship (2022)

ETH Zürich | Zürich, Switzerland ⸱ *09/2023 – 02/2024*
Mechanical Engineering, International Exchange
Courses: Robot Dynamics, Microrobotics, Space Research and Exploration, Virtual Reality, Distinguished Seminar in Robotics

WORK EXPERIENCE

Formlabs | Somerville, MA, USA ⸱ *09/2025 – 12/2025*
Hardware R&D Print Process Intern
- Characterized and validated next-generation SLA printer hardware through part analysis and iterative testing, confirming improvements in print quality, reliability, and consistency
- Reduced per-layer print time by up to 15% by studying resin–air flow interactions and analyzing data from 2,000+ trials in Python to converge on time-optimized printer motion profiles while maintaining part quality
- Investigated relationships between debris flow within resin, tank film damage, and squish moves using OpenCV for particle tracking and pandas for data analysis

Cyber-Physical Systems Group, University of Konstanz | Konstanz, Germany ⸱ *05/2025 – 08/2025*
Swarm Robotics Researcher (DAAD RISE Scholar)
- Developed autonomous sailboats to contribute to swarm control and limnological research on Lake Constance
- Implemented real-time obstacle avoidance using multimodal sensor fusion (mmWave radar, RGB camera, thermal camera) and classical computer vision in Python on Raspberry Pi

Microchip Technology Inc. | Burnaby, Canada ⸱ *05/2023 – 08/2023*
Product Engineer Co-op
- Designed automated test flows with Python, thermal forcers, and Excel to characterize temperature sensors
- Diagnosed calibration hardware resolution limits causing temperature sensor error; developed a software workaround that recovered full sensor accuracy and prevented multi-month shipment delays for 1,000+ chips
- Collaborated cross-functionally with test engineering, firmware, and marketing teams to debug hardware, deliver client-specific features, and support production readiness

Adele Diamond Lab | Vancouver, Canada ⸱ *11/2021 – 04/2022, 09/2022 – 04/2023*
Interactive Media Developer
- Programmed browser-based games to support psychiatric studies on memory and cognitive abilities in children
- Learned a new programming language in 2 weeks to refactor a game, expanding test case size by 40%, and improving correctness for nationwide deployment
- Developed tools to automate sequence generation, data formatting, and file filtering to improve lab organization

TECHNICAL PROJECTS

UBC Sailbot Design Team ⸱ *11/2021 – Present*
Polaris, Mechanical Team
- Directed 10-member hull and keel team for a fully autonomous sailboat to collect oceanic data
- Optimized hydrostatic, hydrodynamic, and structural properties using ANSYS FEA and Maxsurf simulations
- Established a standardized system to streamline collaboration on a team-wide 700+ part SolidWorks assembly
- Manufactured hull from CFRP sandwich panels using hand layup and vacuum bagging techniques

UBC Engineering Physics Project Lab ⸱ *09/2024 – 04/2025*
LoRa Pet Tracker
- Designed a PCB integrating LoRa, GPS, and IMU modules for real-time pet location monitoring via a mobile app
- Built custom C/C++ libraries for drivers and data processing for efficient sensor integration over I2C, SPI, and UART, optimizing for power and range
- Recipient of the Roy Nodwell Memorial Prize for a high professional standard and industry relevance

TECHNICAL SKILLS

Mechanical	SolidWorks, Ansys, Maxsurf, CFRP composites, 3D printing, CNC, Milling machine, Lathe
Electrical	Oscilloscope, Signal generator, Soldering, Altium, PCB design/testing
Embedded	C, Firmware development, I2C, SPI, UART, Hardware debugging, Sensor integration
Software	Python (pandas, SciPy, OpenCV, NumPy, TensorFlow/Keras), MATLAB, ROS, Linux, Git