Erik MacLennan

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Technical Skills Summary

Software	Mechanical	Electrical
• C++, Python (Django), MATLAB, JavaScript (Node.js), Swift • Version control (git) • AWS (S3, RDS, EC2) • LabVIEW (G), NI VeriStand	• Prototyping (3D printing, laser cutting, water-jet cutting, basic metalwork) • SOLIDWORKS (CSWP, CSWPA-SM, CSWPA-WD), Onshape, CATIA V5 • GD&T (per ASME Y14.5M-1994)	• Oscilloscope, multimeter • PCBA schematic, layout design (Altium) • Circuit analysis (SPICE) • CAN, I^2C, SPI, SDI-12

Education

2014 - 2019

BASc Engineering Physics, University of British Columbia (UBC)

- 16 months co-op work experience (UBC Science Co-op)
- UBC Formula Electric, Accumulator Lead (Formula SAE Electric student team)
- Faculty Award, 2019 Faculty of Applied Science Design and Innovation Day

Work Experience

May 2026 - Present

Epia Neuro Inc., Alameda (remote from Vancouver)

Staff Systems Engineer (Contract)

Full-time remote contracting engagement with periodic on-site work.

- Mechatronics engineering for the actuation platform behind a wearable robotic hand/wrist exoskeleton: cable-driven motor stages, tension sensing, mechanism design, and force characterization.
- Contribute to system architecture and requirements for the wearable actuation unit (motors, control PCBA, power, thermal budget) and support test sessions with clinicians and participants.

2020 - Present

Ensemble Scientific, Vancouver

Co-founder

- Smart irrigation for farms: dripline-integrated sensors and valve controllers driven by cloud software.

Iota Biosciences, Alameda

May 2025 - May 2026

Senior Systems Engineer, promoted to Staff Systems Engineer (Feb 2026)

- Technical Lead for design, prototyping, and verification of wearable robotic exoskeleton systems from concept through clinical evaluation.
- Derived device and product requirements from user needs and regulatory standards.
- Collaborated with clinicians, therapists, and users to evaluate device safety and effectiveness.

Mar 2023 - May 2025

Senior Test Engineer, ATE

Developed equipment to test electronics for novel, active implantable medical devices.

- Created automated test systems (ATE) for use in R&D, manufacturing, and design verification activities.
- Worked closely within R&D to support testing that helps drive design decisions.
- Deployed and maintained test equipment at multiple production facilities.

Jan 2020 - Mar 2023

Precision NanoSystems, Vancouver

Systems Engineer

Supported current engineering activities across multiple high-precision microfluidic research-use instruments.

- Developed testing criteria and electromechanical test jigs to maintain a high level of consistency in outgoing instruments.
- Primary point of contact for technical field escalations and subsequent root cause investigation and corrective action implementation.
- Primary technical owner of all custom circuit board assemblies. Debugged non-conformances and led the design of PCBA updates.

- Built and managed internal software tooling to better facilitate internal processes, including product lifecycle management/version control, corrective action/root cause analysis, and internal documentation.

Mar 2019 - Jan 2020

UBC Ecohydrology, Vancouver

Full-Stack Software Engineer

- Contributed to a custom LoRa data logger (circuit board and C++ firmware) for collecting field sensor data in support of water/land use research.
- Built a Django web application and database, hosted on AWS, for storing and viewing the sensor data.

May 2018 - Aug 2018

Tesla, Inc., Palo Alto

Drive Systems Test Engineering Intern

Developed test equipment for the Tesla Model 3 Drive Unit (3DU).

- Created LabVIEW APIs for interfacing with Tesla drive inverters, in-house power distribution units, and other CAN devices.
- Designed and fabricated a new 3DU motor mount for use in production, with potential application in service centres. Mass optimization and DFM emphasized. 10+ units manufactured and in use.
- Collaborated with production engineers across multiple production lines to quantify inefficiencies and design solutions to mitigate them.

May 2017 - Dec 2017

Kodak, Vancouver

Systems/Electro-mechanical Engineering Co-op

Developed precision opto-mechanical test jigs that interface with peripherals including power meters, linear actuators, USB cameras, and Kodak's thermal imaging heads.

- Developed a LabVIEW application for image acquisition and live analysis for automatic micron-precision alignment and quality control of optical components during production.