

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, I²C, 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
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Work Experience

May 2026 - Present	Epia Neuro Inc., Alameda (remote from Vancouver) Staff Systems Engineer (Contract) <i>Part-time remote contracting engagement with periodic on-site work.</i> • Mechatronics engineering for the actuation platform behind a wearable robotic hand/wrist exoskeleton: cable-driven motor stages (maxon ECX / EPOS4), 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.

Mar 2019 - Jan 2020	• 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.
	UBC Ecohydrology, Vancouver Full-Stack Software Engineer Developed an end-to-end solution for capturing sensor data from remote deployment locations in North and South America to support research in water/land use practices. • Full design and bring-up of a custom circuit board assembly complete with LoRa radio, GPS, and power management functionality. • Wrote firmware for the embedded system for data acquisition from 20+ sensor variants with various communication protocols, and wireless transmission with LoRa. Written in C++ in an OOP model. • Created and maintained a relational database for sensor data, along with a web front-end for data accessibility and visualization purposes. Written in the Django framework for Python, hosted with various AWS services.
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.

Projects

Mar 2020	PEEP-Alert Technologies, Vancouver Co-founder • Alarm device for helmet-based non-invasive ventilation, monitoring pressure and flow rates.
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