Dean David Menkis

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Skills

Programming: C/C++, Python, JavaScript, Verilog, Pascal, Git
Robotics & Embedded: Kawasaki AS, KIDE, K-Roset, ESP32, Arduino, Raspberry Pi
Industrial Automation: Beckhoff TwinCAT, Structured Text, Ladder Logic, PLCs
CAD & Manufacturing: Fusion 360, Inventor, AutoCAD, Blender, DFM (Additive + Subtractive)

Education

British Columbia Institute of Technology Burnaby, BC
Bachelor of Electrical Engineering, Average: 91% *2024 – 2029*

- **Relevant Coursework:** Circuit Analysis, Digital Logic Design, Electronic Circuits, C Programming, Networking Fundamentals, Electrical Codes & Standards.
- Awarded **1st** at the BCIT Engineering Competition and **3rd** at the Western Engineering Competition (U. of Alberta), both in Debate.

Experience

Silver Hills Bakery Mission, BC
Junior Robotics Specialist *Jan. 2026 – Present*

- Designed **4** specialized end effectors for Kawasaki industrial robots to handle several SKUs across automated bread production lines.
- Programmed, wired, and commissioned a pick-and-place robotic cell in Beckhoff Structured Text and Ladder Logic, integrating state machine control of sensors, solenoids, valves, conveyors, motors, pneumatics, and air knives to hit **150%** of target rate and deliver over **4,000 loaves per hour**.
- Engineered **over 200** custom parts and assemblies, prototyping in PLA before committing to stainless steel to cut per-iteration cost by up to **95%**; collaborated with fabricators, machinists, and millwrights.

British Columbia Institute of Technology Vancouver, BC
Research Assistant: School of Energy *July 2025 – Dec. 2025*

- Developed a questionnaire to classify co-op jobs from multiple program pathways at BCIT using Bohnenberger's taxonomy of sustainable employment.
- Coordinated a joint UBC-BCIT research survey, combining physical and digital outreach campaigns to engage hundreds of students across both campuses.

Mott Electric Port Coquitlam, BC
Apprentice Electrician *Jan. 2024 – Mar. 2024*

- Retrofitted a downtown Vancouver high-rise with fiber optic infrastructure, receptacles, and lighting systems.
- Diagnosed and resolved fiber optic and Ethernet cabling faults during installation.

Leadership & Volunteering

BCIT Student Association (BCITSA) Burnaby, BC
Chair of Energy *June 2026 – June 2027*

- Elected by School of Energy students to represent and advocate for them on the BCITSA Student Association Board.

BCIT Robotics Club Burnaby, BC
President *July 2025 – Present*

- Grew active membership by **285%** and doubled the size of the executive team since taking over as club president.
- Led **RC Classic 2026** with IEEE, **tripling competitor turnout** year-over-year and awarding **over $2,400** in cash prizes via industry sponsorships.
- Hosted **5 technical workshops** and **3 seasonal events**, and secured **2 new 3D printers** to expand the club's facilities.

Projects

Robotic Dog - Planetary Gearbox | *Fusion 360, C++*

- Designed and 3D printed a 16:1 planetary gearbox actuator to minimize backlash and maximize durability.
- Worked in collaboration to develop inverse kinematics algorithms in C++ for quadrupedal motion.

Jumper Wire Organizer Box | *Fusion 360, Inventor* | MakerWorld

- Designed a modular bento-style organizer to hold jumper wires; iterated custom snap-fit ribs and magnetic closures across dozens of FDM prototypes to dial in print tolerances.
- Published the design on MakerWorld, earning **over 2,100 collections** and **600+ downloads** in the first month.

SmartClock | *ESP32, C++*

- Built a WiFi-connected smart clock on an ESP32 with an OLED display and capacitive-touch interface.
- Integrated the OpenWeather and Alpha Vantage APIs for live weather and market data.

PrintMyCard | *React, TailwindCSS, Three.js, Python, OpenSCAD* | nwHacks 2026

- Developed a browser-based app for designing 3D-printable business cards via parametric modelling, with a React + TailwindCSS + Three.js frontend deployed on Vercel.
- Built a Python + OpenSCAD backend that algorithmically generates colour-aware 3MF files ready for direct printing.

Interests & Hobbies

Designing & 3D Printing: Constantly making little fixes, gadgets, and quality-of-life upgrades for around the house.
Hiking & Outdoors: Exploring British Columbia's trails with my dog.
Reading: A few recent favourites: *Overshoot* by William Catton, *Notes from a Dead House* by Fyodor Dostoevsky, and *One Day, Everyone Will Have Always Been Against This* by Omar El Akkad.