

# Dean David Menkis

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## SKILLS

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**CAD & Manufacturing:** Inventor, SolidWorks, Fusion 360, AutoCAD, FEA, Additive & Subtractive DFM  
**Test Equipment:** Oscilloscopes, Multimeters, Pressure Meters, Flow Meters  
**Programming & Tools:** Python, MATLAB, C/C++, Git, Claude  
**Automation & Embedded:** TwinCAT, Structured Text, Ladder Logic, Kawasaki AS, ESP32, CAN Bus, SPI

## EDUCATION

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

- Won **1st** at the BCIT Engineering Competition and **3rd** at the Western Engineering Competition (Debate).
- Coursework in digital & analog electronics, circuits, and applied mathematics for electronics, with experience coding in C/C++ & MATLAB.

## EXPERIENCE

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**Silver Hills Bakery** Mission, BC  
*Robotics & Automation Engineering Co-op* Jan. 2026 – Sept. 2026

- Designed, programmed, wired, and commissioned a pick-and-place cell for bread depanning, hitting **150%** of target at **4,000+ loaves per hour**, saving **\$240K per year** in labour and freeing workers for other lines.
- Performed **flow and pressure analysis** on a vacuum tool to size the right tubing, valves, and blower motor, and designed a gas cyclone separator using Muschelknautz geometry to keep bread dust out of the blower.
- Learned how to **DFM** from our in-house fabrication team while designing stainless steel and aluminum parts for cutting, bending, welding, and installation.
- Designed FEA-optimized stainless steel frames holding thousands of pounds, **pneumatic end effectors** for Kawasaki RS020N robots, and dozens of brackets and 3D printed parts.
- Validated the cell with hours of shop testing, live production runs, and K-Roset simulations.

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

- Researched green-guidance frameworks to find which helped students most and how they link to career goals and sustainable jobs. Met with faculty about BCIT's role in specific **UN goals**.
- Designed a co-op job classification questionnaire and ran outreach for a joint UBC-BCIT survey that reached hundreds of students across campus.

**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 fixed electrical, fiber, and Ethernet faults with multimeters, voltage testers, and cable testers.

## PROJECTS

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**Robotic Dog Actuator** | *Fusion 360*

- Designed and 3D printed a backdrivable two-stage **16:1 planetary gearbox** for a QM6008 brushless motor.
- Designed and built a linear-rail test stand.

## LEADERSHIP & VOLUNTEERING

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**BCIT Student Association** Burnaby, BC  
*Chair, School of Energy* June 2026 – Present

- Picked five councillors from across School of Energy programs to represent students on policy and governance, and chaired meetings with **30+** class set reps to collect feedback and pass it on to faculty.

**BCIT Robotics Club** Burnaby, BC  
*President* June 2025 – May 2026

- Ran 5 workshops on multimeters, oscilloscopes, soldering, and 3D printing, nearly tripling active members.
- Led RC Classic 2026 with IEEE, tripling competitor turnout YoY and awarding **\$2,400+** in sponsored prizes.
- Secured **\$1,000** for Behind the Robot, a robotics alumni speaker series that drew **55+** engineering students.