

Daniel Benjamin (he/him) Mechanical Engineering Student

Victoria, BC

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TECHNICAL SKILLS

Mechanical

- Waterjet Cutting
- 3D Printing and Design
- Composite Layup Manufacture and Post-Processing
- Hand and Power Tools (Angle Grinder, Miter Saw, Band Saw, Drill Press, Dremel, etc.)

Software

- Git + GitHub
- Subversion (SVN)
- SOLIDWORKS
- Arduino, C, MATLAB
- Adobe Creative Cloud Suite
- Microsoft Office/Google Suite
- Atlassian Suite

Certifications

- Level C CPR/AED
- UBC SRS Chemical Safety
- UBC SRS Floor Warden Training Course
- BC Class 7 Driver's License

EDUCATION

University of British Columbia

Bachelor of Applied Science – Mechanical Engineering

Expected Graduation: May 2028

TECHNICAL WORK EXPERIENCE

UBC MEMS Lab, Vancouver, BC

May 2024 – Present

Undergraduate Research Assistant

- Research tendon-driven prosthetic hands to identify common successful design elements
- Iteratively design and 3D-print a prosthetic hand driven by soft pneumatic actuators while using a personal [custom-made PowerShell script](#) for Git version control integration with SOLIDWORKS
- Develop a demonstration platform to allow prosthetic hand to mimic human hand gestures using MATLAB and Arduino scripts along with a hand-tracking camera module

AES Engineering, Victoria, BC

October 2021 – June 2023

Internship

- Performed load calculations for multi-bedroom apartment units using guidelines from the Canadian Electrical Code (CEC) and the BC Building Code (BCBC)
- Read and created electrical wiring diagrams and block diagrams
- Created power outlet layouts following the CEC and best practices for placement around an apartment
- Gained experience using industry tools including Bluebeam Revu and DIALux evo

TECHNICAL PROJECTS

WeBWorKer Chrome Extension, Personal Project

Jan 2024 – Present

github.com/danielrbenjamin/WeBWorKer

- Published an extension on the [Chrome Web Store](#) with over 350 users
- Used JavaScript and CSS to provide a real-time formatted preview of math entered in text fields on the WeBWorKer homework platform, and show whether entered parentheses are correctly matching
- Polled users for feedback, and developed other quality of life improvements including a built-in search function for the Piazza class forum site along with entry confirmation for questions with limited attempts

ENGINEERING STUDENT TEAMS

Formula Electric, UBC

September 2023 – Present

Chassis Team Member

- Researched and designed a 3D-printed enclosure in SOLIDWORKS using SVN for collaboration for the Front Sensor Module (FSM) in line with FSAE rules such as waterproofing and electrical insulation
- Planned and executed carbon fiber + glass fiber composite layups for car body panels and aero kit
- Cut and ran brake lines through car, in addition to bench bleeding the master cylinder
- Designed and water-jetted metal closeouts for sides and bottom of chassis

VOLUNTEER EXPERIENCE

Victoria Hand Project, Victoria, BC

July 2022 - Present

Volunteer

- Assembled low-cost prosthetic arms with voluntary open/close functionality and an adaptive grasp from a combination of 3D-printed components and metal components like gears and springs
- Contributed concrete ideas to improve assembly speeds, leading to creation of new documentation
- Troubleshooted and repaired broken hands, and developed design ideas to prevent similar issues in newly designed and constructed hands

City of Victoria Youth Council, Victoria, BC

July 2022 – September 2023

Vice President

- Provided input on city policies relating to youth, such as public parking rate increases, diversity and inclusion initiatives, and inclusive designs for public spaces and signage
- Arranged and participated in service initiatives including beach cleanups and blood drives
- Spearheaded a proposal to BC high schools to increase the teaching of financial literacy in schools based on a template pilot program I implemented at my own high school

Capital Regional District, Victoria, BC

July 2022 – August 2023

Thriving Children and Youth Subgroup Consultant

- Provided a youth perspective to the CRD in relation to outreach and policy
- Captured and amplified the views of youth who may not identify themselves as leaders

AWARDS

University of Toronto National Book Award

2023

BC District/Authority Scholarship for Leadership

2023

PROFESSIONAL AFFILIATIONS

SAE International Student Member

2024 – Present

Engineers and Geoscientists British Columbia (EGBC) Student Member

2024 – Present

INTERESTS & ACTIVITIES

- Track and Field
- Rock Climbing/Bouldering
- Hiking