

# Daniel Benjamin (he/him) Mechanical Engineering Student

Victoria, BC

[contact@danielrbenjamin.com](mailto:contact@danielrbenjamin.com) | 236-562-2566 | [linkedin.com/in/danielrbenjamin](https://www.linkedin.com/in/danielrbenjamin)

## TECHNICAL SKILLS

### Mechanical

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

### Software

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

WeBWoKer Chrome Extension, Personal Project

**Jan 2024 – Present**

[github.com/danielrbenjamin/WeBWoKer](https://github.com/danielrbenjamin/WeBWoKer)

- Published an extension on the [Chrome Web Store](#) with over 450 users
- Used JavaScript and CSS to provide a real-time formatted preview of math entered in text fields on the WeBWoKer 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



THE UNIVERSITY OF BRITISH COLUMBIA

Co-op Program  
Faculty of Applied Science

COOP.APSC.UBC.CA  
604-822-3022  
[apsc.coop@ubc.ca](mailto:apsc.coop@ubc.ca)

## ENGINEERING STUDENT TEAMS

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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

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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

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University of Toronto National Book Award

2023

BC District/Authority Scholarship for Leadership

2023

## PROFESSIONAL AFFILIATIONS

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SAE International Student Member

2024 – Present

Engineers and Geoscientists British Columbia (EGBC) Student Member

2024 – Present

## INTERESTS & ACTIVITIES

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- Track and Field
- Rock Climbing/Bouldering
- Hiking

