# Jeremy **Voldeng**

MECHATRONICS ENGINEER WITH A PASSION FOR PRODUCT DESIGN

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## Technical Skills

**Mechanical Design**, Fusion 360, Injection Molding, Sheet Metal, 3D Printing, CNC, Laser Cutting

**Electrical**, PCB Design, Soldering, Communication Protocols, Lab Equipment

**Software**, C++, Python, MATLAB, Java, GitHub

**General**, Product Development, Error Analysis, Design for Manufacturing (DFM), Problem-Solving

## Work Experience

### EXACT Technology Corporation                                          *Toronto, ON*

DESIGN ENGINEER                                                            *June 2022 - February 2025*

- Led mechanical design for a fleet of ruggedized concrete construction products, enhancing durability and reducing failure rates.
- Developed firmware for multiple 'bed of nails' test fixtures using Python, improving PCBA production reliability.
- Collaborated with product development, software, manufacturing, and quality assurance teams to ensure design feasibility and excellence.
- Designed and executed DFMEA validation tests on prototypes, identifying potential risks and improving system characterization.
- Worked closely with the production team to address ECNs, minimizing downtime and maintaining product quality.
- Provided emergency onsite maintenance for clients when required.

### Snow Spines Inc                                                        *Vancouver, BC*

JUNIOR DESIGN ENGINEER                                                     *July. 2021 - Mar. 2022*

- Led product development of an electronic assist system for backcountry skiing, validating a startup concept through rapid prototyping.
- Iterative product design integrated background knowledge in mechanical CAD and electronics. Spearheaded design of motor fixture, electronics enclosures, and cable assembles. Used CNC and 3D printing for rapid prototyping.
- Strong understanding of product life cycle. Iterated through concept design, rapid prototyping and designed testing procedures to ensure correctness. Remained agile through shifting requirements.

### Slant / JABT Laboratories                                             *Vancouver, BC*

CREATIVE SOFTWARE ENGINEER                                                 *Jan. 2018 - Apr. 2018*

- Worked with a team to develop an interactive display with information about the history of residential schools in Canada.
- Designed an intuitive interface for first time users that translated raw data into an easily digestible manner.
- Worked on coordinating and syncing an array of Apple devices with a focus on minimizing communication latency.
- The end result was an interactive, cohesive map synchronized across 3 displays containing location-based historical information.

## Project Experience

### Engineering Physics 479 Capstone Project                              *Vancouver, BC*

D-WAVE MAGNETIC FIELD DEGAUSSER                                            *Sept. 2020 - Apr. 2021*

- The second of two capstone courses. Designed a degaussing system capable of degaussing PCB's below 50pT. We designed the system over the fall of 2020 and constructed it through spring.
- Gained valuable project management experience from discussions with the sponsor D-Wave as well as professionals studying in the field.

### Engineering Physics 253 'Robots'                                       *Vancouver, BC*

SUMMER ROBOTICS COURSE BASED ON MIT AND STANFORD COURSES                   *June. 2018 - Aug. 2018*

- Placed 3rd in an intensive 2 month course competition focusing on rapidly prototyping and designing an autonomous robot as a team of 4, capable of efficiently traversing through a specific obstacle course.
- Led mechanical design, engineering a functional chassis consisting of a complex set of treads able to traverse over gaps and uneven terrain.
- Rapid prototyping and testing consisting of CAD software and equipment such as a laser cutters and 3D printers.

## Education

### University of British Columbia                                        *Vancouver, BC*

BASc - ENGINEERING PHYSICS

5 year UBC program dedicated to Software, Electrical and Mechanical Engineering with a focus on theoretical physics.