

Simon V. Hradil-Kasseckert

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STRENGTHS

Mechatronics: Academic specialization and 1.5 years of professional experience in mechatronics.

Research & Development: Distinct ability to produce elegant solutions to research & development problems that yield user satisfaction and workflow enhancements.

Leadership: Leadership skills cultivated through the facilitation of a student body government, sports club, men's group, and electromechanical engineering design team.

EDUCATION

2016 – 2022 Bachelor of Mechanical Engineering | University of Victoria
(Canada)

- Mechatronics Pathway
- Honours Thesis
- Graduating GPA: 7.10/9.00 \approx 3.2/4.0

PROFESSIONAL EXPERIENCE

Jan – Apr 2021 Mechatronic Scientific Lab Assistant (Co-op) | University of Victoria
(Canada)

- ◇ Aided the transition to an engaging distance learning experience
- Provided one-on-one technical support to student groups
- Maintained lab apparatuses
- Shared administrative responsibilities

Sept – Dec 2020 Junior Mechatronic Engineer (Co-op) | Vitrum Glass Group
(Canada)

- ◇ Optimized production processes
- Designed and implemented more efficient workstations
- Automated workflows
- Retrofit old machines to perform new manufacturing tasks

Jan – Aug 2018 Electromechanical Engineer (Co-op) | Arius Technology
(Canada)

- ◇ Supported the commercialization of a startup
- Designed a light booth as part of a colour-managed workflow
- Maintained materials & resource planning data
- Assisted with assembly and manufacturing

May – Aug 2017 Optical Metrology Technician (Co-op) | MTU Aero Engines
(Germany)

- ◇ Performed specialized deviation analysis
- White-light scanned turbine components
- Analyzed resulting point clouds
- Trained successors

VOLUNTEER WORK

Feb – July 2022 Co-Facilitator (Volunteer) | Monthly Online Men's Group
(Canada)

- ◇ Introduced a group of men to men's work
- Facilitated a monthly online men's group aimed at being flexible and accessible
- Planned meeting topics and recruitment strategies

Sept 2021 – Aug 2022 Club President (Volunteer) | University of Victoria Triathlon Club
(Canada)

- ◇ Doubled membership and built a robust administrative structure
- Spearheaded a new promotional campaign
- Recruited new executive team members
- Facilitated administrative meetings

Sept 2015 – June 2016 Student Council Leader (Volunteer) | L.V. Rogers Secondary School
(Canada) ◇ Empowered students address the concerns of the entire student body with the appropriate administrators

- Founded, recruited for, and facilitated the student council

RELEVANT PROJECTS

May – Aug 2022 Cargosist Alpha Prototype and Business Model
(Canada) ◇ Produced an alpha prototype and business model canvas for my motorized bike trailer concept

- Implemented a proprietary mechatronic control system
- Unified and lead a group of mechanical engineering and business students
- <https://sivihk.com/blog/e-trailer>

Sept 2021 – Apr 2022 Machine Learning Control System for Building Control
(Canada) ◇ Minimized energy consumption in a residential building

- Programmed a machine learning algorithm to control windows
- Generated a customized dataset
- Implemented and validated various deep-learning algorithms
- Adapted models based on parameter dependencies
- <https://sivihk.com/blog/honours-thesis>

Sept – Dec 2021 Geothermal Powerplant Gearbox
(Canada) ◇ Designed a complete planetary gearbox for a geothermal powerplant

- Performed exhaustive failure analysis on all relevant factors, including material, geometry, and fatigue

TECHNICAL SKILLS, INTERESTS, & TOOLS

Mechatronics & Embedded Systems: Object-Oriented Programming, Hardware Selection, 32-bit MCUs

C, C++, Python, MATLAB, Ladder Logic, Arduino, DMM, Oscilloscope, Atmel Microcontrollers, PLCs

Engineering Design: Engineering Design Process, Computer-Aided Design
SolidWorks, Siemens NX, OnShape

Engineering Analysis: Analytical Methods, Numerical Methods, Non-Destructive & Destructive Methods

Working Model, ANSYS, Siemens NX, ATOS Professional, ATOS Scanbox, GOM

Manufacturing: Wood- & Metal-Shop Experience, 3D Printing, Prototyping

All Woodshop Hand Tools, All Woodshop Power Tools, Metal Mill, Metal Lathe, 3D Printer

Communication: Research, Report Writing, Teaching, English & German

Microsoft Office Suite, Google Workplace, LaTeX

Project Management: Leadership, Microeconomics, Organizational Behaviour

Solidworks PDM, GrabCAD, Microsoft Project, Odo

Data Science: Data Management, Statistical Analysis, Machine Learning

Python, R, MS Excel, Google Sheets, Google Colab, PyTorch, fastai, Pandas

Other: Digital Marketing, Web Development, Photography

Adobe Photoshop, Inkscape, HTML, CSS, WordPress

* *men's work*, stemming from the mythopoetic men's movement, is group work that aims to help men integrate their masculinity in a healthy and constructive way. This work includes the development of traits like conscientiousness, authenticity, and integrity.

