

William Zittlau

EIT, B. ASce Mechanical Engineering

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Technical.

Software – Solidworks, VS Code, Excel, Word, PowerPoint, Photoshop, Premiere Pro, Lightspeed, Windchill

Languages – Python, JavaScript ES6, HTML5, CSS, Java, Bash, SQL, Markdown

Frameworks – Flask, Pandas, Selenium, Bokeh, Nuxt.js, Vue.js, Bulma.css, Pure.css

Database – PostgreSQL, Nuxt/Content API

DevOps / Deployment – Git/GitHub, Heroku, Netlify

Equipment – Lathe, Mill, CNC, MIG Welding, 3D Printing, Injection Molding, Ski and Bike tuning equipment

Certificates – Class 5 BC Driver's License, CAA Avalanche Operations Level 1, WHMIS, Basic First Aid, Canadian Passport

Education.

University of British Columbia 2015-2020

Bachelor of Applied Science – Mechanical Engineering

- Graduated with Distinction
- Dean's Honor List in 3rd and 4th year

Mount Boucherie Secondary School

Highschool Diploma

2012-2015

- Work Ethic Award & Principle's List every single semester
- Chad Chretien Memorial Bursary & Lions Club Westbank Award

Work Experience.

Fresh Air Experience (Kelowna, BC) April 2015-2020

Sales Associate/ Technician

- Communicated with customers to understand their needs, and used my technical knowledge to find a product that would suit their current skills, budget, and goals resulting in customer satisfaction and higher sales.
- Performed professional fitting services for bikes, footwear, and ski equipment.
- Performed professional repairs and assembly on bikes and skis.

CORE Energy Recovery Solutions (Vancouver, BC) January 2019 – September 2019

Product Development Engineer Co-op

- Designed new lab test station. (Solidworks, report writing, managing project timeline, managing budget, machining components)
- Created new lab equipment. (Solidworks, 3D printing, machining components, communicating with suppliers)
- Created showroom models. (Solidworks, communicating with Sales/Marketing team, create work instructions for manufacturing)
- Performed testing on products. (LabVIEW, setting up experiments, reporting results)

Poseidon Ocean Systems (Campbell River, BC) May 2018 – September 2018

Product Development Engineer Co-op

- Wrote technical documents for company products/procedures.
- Joined in the design process from problem definition to product delivery.
- Provided technical support and design work on load bearing welded steel structures and injection molded components.
- Communicated with suppliers/clients and delivered product presentations.

**Johnson Bentley Memorial Aquatic Centre & District of Peachland
(West Kelowna & Peachland, BC)**

December 2013 - December 2016

Lifeguard/ Swim Instructor/ Pool Maintenance/ Swim Club Coach

- Taught swimming lessons to children as young as 2, and coached competitive swimmers up to 16 years old.
- Worked both individually and as a team, staying calm and professional in rescues + first-aid administration.
- Took control of crowds, and concisely communicated directions to maintain beach safety.

Professional Projects.

Engineering Capstone Group Project - Search and Rescue Drone with AI integration **2019-2020**

Modular add-on kit including HD camera, infrared camera, supplies delivery winch, AI processor

- Raspberry Pi, Google coral, Solidworks, 3D printing, FLIR camera, Python (TensorFlow)

Design and build of new ERV testing station **2019**

CORE Energy Recovery Solutions (Vancouver, BC)

- Designed a new lab testing station which involved maintaining a project budget, SolidWorks design and modelling, machine shop use, researching and communicating/ordering from suppliers, managing the timeline along with other projects, rapid prototyping of different concepts, designing and testing a scale model to review and validate design choices, assembling components, and communicating/report writing the project's progress

Personal Projects.

Personal Site **2020**

Personal Blog/Portfolio using JAMstack.

- Nuxt.js app deployed to Netlify. Uses Nuxt/Content to read markdown files to generate post contents. Vue.js, JavaScript, HTML/CSS, Git/GitHub.

ETF Converter **2020**

Take a user's portfolio containing ETFs from Yahoo Finance and return it with the weighted underlying holdings of the individual stocks.

- Flask app launched to Heroku. Python (pandas, Beautiful Soup), web scraping, data frame manipulation, asynchronous processing, Jinja2, HTML/CSS, Git/GitHub.

2020

Skiing Forecast App

CRUD API + Mobile-first web app (Weather + Avalanche Forecast).

- Flask RESTful API which generates routes/info for the UI app, launched to Heroku. Python (SQLAlchemy), Postgres SQL, HTTP-Auth, Git/GitHub.
- Flask app launched to Heroku. Python (pandas, Beautiful Soup, Bokeh), web scraping, responsive graphs, jQuery/Vanilla JS, Jinja2, HTML/CSS, Git/GitHub.

Rogers Pass SMS notifications **2020**

Single Page Application which sends daily SMS notification on the updated statuses of WRAs.

- Flask app launched to Heroku. Twilio, Python (Selenium, regex, SQLAlchemy), Postgres SQL, CRON-like task manager, web crawler, input validation + message flashing, Jinja2, HTML/CSS, Git/GitHub.

Home-made Splitboard package **2019**

Snowboard / Binding / Boot modifications.

- Used Solidworks and 3D printing to prototype/ design and create part drawings
- Developed and assembled DIY bindings using a combination of pre-fabricated and custom parts
- Rebuilt pivot in ski boot by making custom bushings and sourcing hardware
- Designed and machined adaptor plates to fit standard splitboard hardware mounting and dynafit toe pattern

Bikepacking Fork Bracket **2019**

Touring bracket to mount water bottles / accessories to threaded bicycle forks.

- Used Solidworks to design and create 3D models / part drawings
- Rapid prototyping with 3D printing

Created A Profitable Start-Up Business **2015-2016**

Small scale hand-sewn clothing company

- Researched and communicated with potential suppliers and wholesalers both domestic and overseas
- Completed the product development process from start to finish, including developing logos, finding a supplier, making a purchase order, assembling the product in house and, finally, marketing and selling the products to consumers

Volunteer Experience.

Big White Snow Demo (Kelowna, BC)

February 2018, 2019

Assistant to the Salomon Rep

- Assisted in providing binding adjustments, ski suggestions, and answering customer questions about Salomon's winter products over the weekend long demo event

Professional Affiliations.

Engineers and Geoscientists of BC – Registered Engineer-in-Training (EIT)

Alpine Club of Canada – Student Member

Activities / Interests.

Backcountry Skiing – Garibaldi Neve traverse in a day (40k), Spearhead traverse (35k)

Trail Running – Ultramarathon at Big White ski resort (50k), Juan de Fuca (47k) self-supported in a day

Biking – Okanagan Lake circumnavigation (280k), Courtenay to Victoria (200km) both in a day

Others – Snowboarding, Mountaineering/Climbing, Camping, Surfing, Investing.

**References available upon request.*