

# Riley Paul

North Vancouver, BC | [rileypaul96@gmail.com](mailto:rileypaul96@gmail.com) | 403-998-2856 | [LinkedIn](#) | [Github](#) | [Website](#) | [Youtube](#)

*Mechanical Engineer with over 5 years of construction experience and a track record of self-started technical initiatives. Proven ability to optimize conventional engineering tasks and boost efficiency through the application of innovative solutions. Currently engaged in the process of acquiring P.Eng with EGBC.*

## Experience

### **Project Engineer, Macro Pipelines**

Mar 2021 - Sep 2023 | Chilliwack, BC

- Accustomed to a demanding, highly dynamic work environment from on-site role with a large-scale construction contractor
- Performed drafting, field inspection, technical writing, project coordination and project estimation duties on a day to day basis
- Programmatically generated large, detailed site drawings, using self-developed methods of AutoCAD automation, saving thousands of man-hours and reducing likelihood of errors. Time to produce a drawing dropped from 3 months to 3 days.
- Performed complicated analyses of geospatial, project controls, and natural resource data using Python and created visualizations to allow for all stakeholders to clearly understand performance metrics and project specifications
- Pioneered aerial survey program; performing drone flights to create an online database of 2D and 3D imagery using photogrammetry. Imagery was used extensively for construction planning, drawings, estimating and progress tracking

### **Data Analysis Consultant, Macro Construction**

Feb 2023 - May 2023

- Performed analysis of geospatial, financial, and climate data to aid in the presentation of a contractual discrepancy suit
- Prepared clear and concise maps and figures outlining extenuating circumstances and barriers to success which were presented in a court of law

### **Computer Aided Design Consultant, Headwind Technologies**

Oct 2021 - Jan 2022

- Refined the Solidworks model of the flagship turbine design to improve topology and be more strictly parametric
- Worked closely with injection molding manufacturer to optimize the complex design for mass production

### **Junior Project Engineer, SA Energy Group**

Jul 2019 - Mar 2021 | Western Canada

- Engaged in all processes of project estimation; including initial on-site scouting, detailed execution planning, schedule resource loading, and delivery/discussion with the client
- Deployed a private constellation of weather stations along a 200 km long remote construction project in Northern BC. Developed a NodeJS program to deliver a daily summary report to project management to inform their decisions for the day. Multi-million-dollar contract changes approved due to adverse weather conditions captured by the system. Reduced likelihood of environmental damage by providing detailed report of environmental conditions prior to work beginning

- Developed application for renaming photos taken in the vicinity of the project with the chainage of their location (distance from start of linear project). This was used by environmental and inspection teams on two, multi-billion-dollar projects to organize tens of thousands of images

## **Mechanical Design & Fabrication Lead,**

Jan 2017 - Jun 2019 | St. John's, NL

*Memorial University Baja SAE Team*

- Built a single-seat off-road vehicle alongside a team of students to compete against over 100 other North American engineering schools in various dynamic events, including a four-hour endurance race. Travelled to USA 3 years in a row to compete
- Exhibited strong problem solving ability and practical skills to devise creative solutions while adhering to strict criteria provided by the Society of Automotive Engineers
- Developed entirely new space-frame chassis to be 40% lighter than previous version and more ergonomic. Personally performed the assembly and TIG welding fabrication
- Created entirely new aluminum sheet metal seat with ergonomics tuned through the use of iterative cardboard prototypes
- Revised rear suspension trailing links using cutting-edge generative design software to be 30% lighter and more manufacturable

## **Education**

**Full Stack Web Development Bootcamp,** *Lighthouse Labs*

Jan 2022 - Apr 2022

Node.js, Express, ReactJS, Testing, Ruby on Rails, Database Design, PostgreSQL

**Bachelor of Mechanical Engineering,**

Sep 2014 - Apr 2019 | St. John's, NL

*Memorial University of Newfoundland*

GPA 3.53 / 4.00, Mechanical Design Lead for Baja SAE Team for 3 years

## **Abilities**

- Mechanical Design (*Solidworks, Other parametric software*)
- Civil Design (*AutoCAD, Civil 3D, GIS software*)
- Data Analysis (*Python, Pandas, GeoPandas, GIS*)
- Web Application Development (*Javascript, HTML, React, Databases, API design*)
- Aerial Survey (*automated flights, photogrammetry software (Pix4D), licensed*)
- Communication (*written and verbal*)

## **Interests**

- Outdoor Recreation (*rock climbing, backcountry skiing, camping, paddling*)
- Photography (<https://photo.rileypaul.ca>)
- 3D Printing