

Riley Paul

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PROJECTS

Plot Digitizer, *Typescript, React, TailwindCSS, HTML Canvas* [🔗](#)

- Web app to allow quick extraction of raw data from graphical representations
- Written in Typescript using React and Tailwind and hosted on Github Pages
- Built as an original project to showcase frontend skills and is used by fellow engineers at current company

Construction Applets, *SvelteKit, FastAPI, Postgres, Prisma, Serverless, Typescript, Python, Authentication* [🔗](#)

- Web app to package several custom data analysis Python scripts into a package useable by any of my coworkers.
- Built using the SvelteKit framework with a Postgres database and hosted on Vercel
- Python geospatial analysis server running FastAPI hosted on Heroku.

AutoCAD Automation Library, *Python, Object-Oriented Programming, Custom Library* [🔗](#)

- Python library for generating AutoCAD scripts to allow for drawing automation
- Created out of frustration at first engineering job when populating large drawings by hand
- Reduced time to complete a large site drawing by 95% (three months > three days) with far fewer errors

Chainage Photo Renamer, *Python, GUI, TKinter, Quadtree Optimization* [🔗](#)

- Windows app renames photos taken in the vicinity of a linear construction project with the project chainage (distance in meters from the start of the project to location) of the photos' geolocation
- Used by workers on two, billion-dollar projects to organize tens of thousands of jobsite images

Weather Station Constellation & Reporting, *NodeJS, Cronjob, Third-Party API, SendGrid, Linux* [🔗](#)

- Private constellation of weather stations along remote construction project in northern BC with NodeJS Linux server collecting data and sending 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 system

PROFESSIONAL EXPERIENCE

Project Engineer, *Macro Industries* [🔗](#)

Mar 2021 – present | Chilliwack, BC

- Developed several internal tools using ReactJS, Sveltekit, Python Flask, and PostgreSQL to improve efficiency of coworkers by solving niche problems
- Accustomed to a demanding, highly dynamic work environment from on-site role with construction contractor
- Programmatically generated large, detailed site drawings, using self-developed method of AutoCAD automation, saving thousands of man-hours and reducing likelihood of errors
- Performed complicated analyses of geospatial, project controls, and natural resource data and created visualizations to allow for all stakeholders to clearly understand performance metrics and project specifications
- Pioneered aerial survey program; creating online database of 2D and 3D models using photogrammetry for use in construction planning, drawings, estimating and progress tracking

Junior Project Engineer, *SA Energy Group* [🔗](#)

Jun 2019 – Mar 2021 | Western Canada

- On-site contract role on large-scale construction projects in Northern BC, Edmonton and Saskatchewan

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, [🔗](#)

Memorial University of Newfoundland [🔗](#)

Sep 2014 – Apr 2019 | St. John's, NL

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

INTERESTS

Outdoor Recreation (*rock climbing, backcountry skiing, camping, paddling*) | **Photography** [🔗](#) | **3D Printing**