Riley Paul

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Mechanical engineer turned software engineer with experience in self-started coding initiatives and additional education in full stack web development. Proven ability to optimize conventional engineering tasks and boost efficiency through the application of innovative solutions.

EDUCATION

Full Stack Web Development Bootcamp, *Lighthouse Labs* Jan 2022 – Apr 2022
Node.js, Express, ReactJS, Testing, Ruby on Rails, Database Design, PostgreSQL

Bachelors of Mechanical Engineering, Sep 2014 – Apr 2019 | St. John's, NL
Memorial University of Newfoundland
GPA 3.53 / 4.00

PROJECTS

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

Personal Website, *AstroJS, HTML, CSS, TailwindCSS, ThreeJS*
- Site to showcase projects and experience; built using AstroJS and hosted on Github Pages
- Incorporates custom ThreeJS canvases to showcase 3D models

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, *Python, Cronjob, Third-Party API, Email Automation, Linux*
- Private constellation of weather stations along remote construction project in northern BC with Raspberry Pi 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

Pipeline Project Engineer, *Macro Pipelines* Mar 2021 – present | Chilliwack, BC

- 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
- Pioneered aerial survey program; creating online database of 2D and 3D models using photogrammetry for use in construction planning, drawings, estimating and progress tracking
- Created advanced, map-based visualizations of dynamic project information allowing for all stakeholders to clearly understand performance metrics and project specifications
- Performed complicated analyses of geospatial, project controls, and natural resource data to inform key decisions

Junior Pipeline 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
- Exceptionally strong skills in modelling and visualization, honed through experience incorporating field survey data into engineering drawings such as pipeline profiles, site layouts, grade execution plans
- Worked indepedently and under tight deadlines to perform field survey using RTK GPS and survey drones
- Also worked in Calgary office where exposed to all stages of project estimating; including crew planning, subcontractor relations and resource allocation

Mechanical Design Lead, *Memorial University Baja SAE Team* Jan 2017 – Jun 2019 | St. John's, NL

- Built single-seat off-road vehicle alongside a team of students to compete against over 100 other engineering schools in various dynamic events, including a four-hour endurance race
- Devised creative solutions while adhering to strict criteria provided by the Society of Automotive Engineers
- Exhibited strong problem solving ability and practical skills in designing and fabricating major components:
  - New space-frame chassis more ergonomic and 40% lighter than previous version. Performed TIG welding for majority of structure
  - New aluminum sheet metal seat - ergonomics tuned using iterative cardboard prototypes
  - Revised rear suspension trailing links using cutting-edge generative design software - 30% lighter and more manufacturable

INTERESTS

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