MATHEW WHEATLEY

mathew.p.wheatley@gmail.com (301) 481-6219 Los Angeles, CA LinkedIn GitHub

Professional Experience

Back-end Software Engineer (L5)

Shopify Remote January 2021 - Present

- Developed a user-friendly interface for thousands of premium customers by creating a parser for an SQL inspired query language in Typescript. Leveraged the language server protocol and ANTLR to ensure efficient and accurate parsing. This work was featured in Shopify Editions Summer 2022 and Winter 2023.
- Implemented new features, resolved bugs, and performed maintenance tasks on critical Typescript, Go, Rust and Ruby backend services. These services cater to millions of customers on a daily basis.
- Took initiative to continuously improve the codebase, reducing technical debt and enhancing the developer experience. Implemented best practices, optimized code performance, and prioritized code readability to expedite the implementation of new features.
- Collaborated closely with cross-functional teams to drive seamless integration, timely implementation of product requirements, and successful project delivery. This involved active participation in discussions, providing technical insights, aligning with stakeholders, contributing to project planning, execution, problem-solving, and fostering a culture of innovation and delivery excellence.

Propulsion Engineer III

Blue Origin Seattle, WA December 2015 - September 2019

- Managed the end-to-end orchestration, from design, analysis, procurement, manufacturing, integration, testing, and certification of two intricate turbopump assemblies comprising over a hundred individual parts.
- Develop a command line part tracking program, enabling engineers to calculate accumulated test time on assemblies as well as piece parts. This tool proved crucial insight during failure investigations.
- Created a 1D rotor analysis design tool with a user-friendly GUI in Python. This tool facilitated hundreds of iterations during the redesign of the critical turbine rotor which contributed to the successful human certification of the BE-3 rocket engine.
- Co-authored a simplified tool for engineers to pull engineering drawings with a single click, significantly reducing the time and effort required compared to the previous cumbersome 7-click method. This tool benefited hundreds of engineers, saving valuable engineering hours on a daily basis.
- Utilized test data trending and analysis to verify performance, integrity, and identify potential shortfalls or unforeseen issues, contributing to the overall reliability and optimization of the turbopump system.
- Developed a comprehensive wiki serving as a centralized source of information for the design, block updates, procurement, schedule, and testing of the BE-3 turbopumps. This streamlined communication and improved collaboration across teams.

Design Engineer

General Electric: Aviation Cincinnati, OH November 2010 - November 2015

- Authored, tested, and validated control logic for three critical valves on the GEnx-1B aircraft engine. There are approximately 3000 engines in service today which are flown on the Boeing 787-8 Dreamliner.
- Designed five critical rotating parts in the compressor and turbine of the AETD military jet engine.
- Developed a Python-based rotor design tool suite with a user-friendly GUI, seamlessly integrating CAD, FEA, internal post-processing tools, and PowerPoint. This automated design iteration, analysis, and evaluation against checklist criteria, reducing the workload from 6 hours per iteration to just 5 minutes. The tool's efficiency and effectiveness gained recognition, leading to its adoption by the rotating parts team for company-wide use.
- Conducted structural, thermal, and vibrational analysis on critical static and rotating hardware, employing various tools such as hand calculations, homegrown code, and finite element analysis to ensure robustness and performance optimization.

Skills

- **Languages:** Javascript, Typescript, Go, Rust, Ruby, Python, HTML, YAML, Markdown, Matlab
- **Databases:** MySQL, Postgres, BigQuery
- **Framework:** React, Vite, Ruby on Rails, Node.js
- **Design:** VSCode, IntelliJ, Figma, Miro, Photoshop, Lightroom, Illustrator, Premier Pro, Inkscape
- **Notable libraries:** ANTLR, GraphQL, Apollo, Bootstrap, Jest, Minitest, Redux, D3
- **Collaboration:** Git, Github, Zenhub, Tuple, Slack
- **Other:** Google Looker, PTC Creo, NX Unigraphics, Fusion 360, Matlab, ANSYS Work-bench/ADPL

Education

Software Engineering Bootcamp

Flatiron School | Seattle, WA | March 2020 - August 2020

Masters of Science in Mechanical Engineering

The Ohio State University | Columbus, OH | September 2012 - May 2014

Bachelors of Science in Mechanical Engineering

University of Maryland Baltimore County | Baltimore, MD | September 2006 - August 2010