Mathew Wheatley

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Professional Summary

I am a results-oriented engineer with 10 years of experience and a proven history of problem solving in challenging fields ranging from aircraft and rocket engine design to e-commerce. My experience gives me an understanding of the importance of each aspect of engineering from requirements definition, research, design, analysis, integration, team-work, testing, and maintenance. I am excited to tackle new problems that will make this world a better place.

Professional Experience

👤 Back-end Software Developer - Commerce Intelligence

🏢 Shopify 📍 Los Angeles, CA (Remote) 📅 January 2021 - Present

- ▶ Closely collaborated with interfacing teams via frequent paired programming as well as code reviews in a continuous integration environment.
- ▶ Implemented type checking via Sorbet on numerous modules to ensure data is properly structured and the code is semantically explicit.
- ▶ Successful execution of cursor based GraphQL pagination on a Ruby on Rails back-end service to serve customer facing activity log.
- ▶ Wrote and maintained well-tested code on Ruby on Rails back-end which served data for merchant insights.
- ▶ Actively sought out growth opportunities to expand my skill set while balancing all deliverables.

👤 Propulsion Engineer III - BE-3 & BE-3U Rocket Engine Turbopumps

🏢 Blue Origin 📍 Seattle, WA 📅 December 2015 - September 2019

- ▶ Critical and timely redesign in response to life shortfall due to vibrational issues on the BE-3 liquid hydrogen turbopump turbine rotor.
- ▶ Test data trending against design analysis predictions to verify performance and integrity as well as gain insight into any shortfalls or unforeseen issues.
- ▶ Created critical assembly stack verification via drop measurements, torque tests, and helium leak tests.
- ▶ Oversaw of design, analysts, manufacturing, integration, and test engineers with a average team size of five.
- ▶ Development of wiki to act as the single source of truth for design, block updates, procurement, schedule, and testing for the BE-3 turbopumps.
- ▶ Schedule along with resource planning of design, procurement, inspection, assembly, and integration dates for BE-3 turbopump development as well as production.
- ▶ Authoring of two executive level memorandums describing technical issues and recommended path forward.

👤 Design Engineer - AETD Aircraft Engine High Pressure Turbine & Compressor Rotor

🏢 General Electric Aviation 📍 Cincinnati, OH 📅 June 2012 - November 2015

- ▶ Design of eight critical rotating parts in the compressor of the AETD jet engine.
- ▶ Preparation as well as presentation of numerous design reviews at various stages of design to chief engineers, management, and other top level stakeholders such as the Air Force.
- ▶ Structural, thermal, and vibrational analysis of critical static as well as rotating hardware using the appropriate tools ranging from hand calculations, home grown code, and finite element analysis.

👤 Control Systems Engineer - GEnx-1B Aircraft Engine FADEC

🏢 General Electric Aviation 📍 Cincinnati, OH 📅 October 2010 - June 2012

- ▶ Logic design and implementation of various valves on the GEnx-1B aircraft engine.
- ▶ GEnx-1B squawk lead responsible for delegating, management, and resolution of flight test issues.
- ▶ Logic verification on HIL, engine test, and flight test.

Education History

🎓 Software Engineering
🏛 Flatiron School　　　　📍 Seattle, WA　　　　📅 March 2020 - July 2020

🎓 Masters of Science in Mechanical Engineering　　　🖩 3.46 GPA
🏛 The Ohio State University　　📍 Columbus, OH　　📅 September 2012 - May 2014

🎓 Bachelors of Science in Mechanical Engineering　　🖩 3.32 GPA
🏛 University of Maryland, Baltimore County　📍 Baltimore, MD　📅 September 2006 - August 2010

Toolbox Summary

Languages
▶ Ruby
▶ Javascript
▶ Typescript
▶ Python
▶ HTML
▶ CSS
▶ Markdown
▶ YAML
▶ SQL

Notable Libraries
▶ Minitest
▶ Sorbet
▶ Redux
▶ Thunk
▶ GraphQL-Ruby
▶ Apollo

Frameworks & SDK
▶ Ruby on Rails
▶ React
▶ Flutter

Database
▶ Postgres
▶ Sequel Pro

Collaboration
▶ Miro
▶ Zenhub
▶ Git & Github
▶ Tuple
▶ Slack

Design
▶ Photoshop
▶ Lightroom
▶ Illustrator
▶ Premier Pro
▶ Inkscape
▶ Figma

IDE
▶ iTerm
▶ VS Code

CAD
▶ PTC Creo
▶ NX Unigraphics
▶ Fusion 360

Other
▶ Matlab
▶ Ansys Work-bench/ADPL

Personal Projects

Brewery Run　🎥 Demo　🖥 Hosted　 Front-end　 Back-end

A web-app enabling users to create, share, and discover running routes between local breweries.
▶ Implemented secure login to Rails API back-end via JWT tokens stored in secure http only cookies
▶ Built React based app which utilizes Redux store with asynchronous fetches to back-end via middle-ware Thunk.
▶ Interfaced with several APIs including Google Maps and Open Brewery DB.
▶ Safeguarded user data by conditionally provided data based on user and rendering requirements.

Technical & Leadership Credentials

Professional
▶ Edison Engineering Program at GE　　　📅 2011 - 2014
▶ Advanced Course in Engineering at GE　　📅 2011 - 2013
▶ Geometric Dimensioning & Tolerance　　📅 2012 & 2016
▶ Foundations of Leadership at GE　　　　📅 2012
▶ Mechanical Design Fundamentals at GE　📅 2011
▶ Engineer in Training (EIT) Certification　📅 2010

Volunteerism
▶ Teaching & Construction Abroad　　　📅 2019
▶ The World Is Fun Event Lead　　　　 📅 2016 - 2019
▶ FIRST Robotics Robot Inspector　　　📅 2015
▶ GBB Lead Coordinator　　　　　　　📅 2015
▶ Paint The Town Committee　　　　　📅 2014 - 2015
▶ GBC Hands-On Committee　　　　　 📅 2013 - 2015
▶ Give Back Beyond (GBBC) Volunteer　📅 2012 - 2015
▶ Give Back Cincinnati (GBC) Volunteer　📅 2010 - 2015

Extracurricular Pursuits

▶ Laser Cutting
▶ Wood working
▶ Leather working
▶ 3D Printing
▶ Photography

▶ Running
▶ Climbing
▶ Skiing
▶ Hiking
▶ Drones