

Andrew Thresher *Software Engineer*

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I am a software engineer transitioning from an aerospace engineering career with over five years of designing solutions in the aerospace industry. Over the last two years, I've built software using multiple languages and technologies including Ruby, JavaScript/Node.js, Typescript, React, Go, PostgreSQL, Docker, and AWS. Most recently, I built a geographically distributed load testing service, Constellation 📄.

Technical Experience

Constellation, Software Engineer, Co-Creator 📄 2022

Constellation automates scalable, geo-distributed API load testing to allow developers to test how their system responds to requests from all over the globe.

- Architected a serverless load-generation framework with the capability to simultaneously simulate, record, store, and visualize metrics for up to 10,000 virtual users from 26 distinct geographical locations
- Automated and streamlined the deployment of cloud infrastructure based on user input, reducing dozens of complex AWS actions to two Constellation commands.
- Developed a command line interface that provides real-time status for multi-regional deployment.
- Wrote and containerized components that support load generation and monitoring including:
 - a load generation engine that generates and monitors HTTP traffic following a user-defined test script by utilizing Node.js promises and Axios instances
 - a data collection ELT pipeline that provides a single stream of data to a central AWS Timestream database
 - a data visualization tool that provides detailed visibility for convenient performance analysis of test results
- Authored the Constellation case study: <https://constellation-load-testing.github.io/case-study.html> 📄
- Collaborated remotely with an international team of four engineers across four timezones

Open Source Software, Software Engineer 2021 – 2022

- BinOfRequests: A full-stack application to monitor HTTP requests primarily intended for debugging webhooks (Express, MongoDB, PostgreSQL, React, Nginx, PM2, AWS EC2)
- The Cart: A database-backed e-commerce app (Express, React, MongoDB, Docker)
- What ToDo: A todo app with filter/search, authentication, and session persistence (TypeScript, React/Redux, JSON Web Tokens, Express, MongoDB)

Skills

Languages & Frameworks

Ruby, Sinatra, JavaScript, TypeScript, Node.js, Express, React/Redux, Go, HTML/CSS

Technologies

PostgreSQL, MongoDB, Docker, Nginx, Git/GitHub, HTTP/REST, NPM

Cloud

AWS (EC2, ECS, Lambda, DynamoDB, Timestream, IAM), Digital Ocean Droplet, Heroku

Professional Experience

Design Engineer II, Systima Technologies 2015 – 2021 | Kirkland, WA

- Proposed, designed, and tested novel hot gas, cold gas, and solid propellant actuated devices including ejectors, two-stage retention and deployment mechanisms, and launch systems.
- Performed flight and ground test events, both on- and off-site, for a variety of systems.
- Presented proposals and project updates to government and private customers.

Education

Launch School

2021 – 2022 | Remote

Multi-year full-stack software engineering curriculum emphasizing mastery of fundamentals

B.S. Aerospace Engineering, Embry-Riddle Aeronautical University
Honors Program, Sigma Gamma Tau, Silver Wings

2009 – 2014 | Daytona Beach, FL