

James Allen

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<https://github.com/jallen98/portfolio> | <https://www.linkedin.com/in/james-j-allen/>

Education

Northeastern University - Boston, MA
Bachelor of Science in Computer Engineering

May 2020
GPA 3.986

Skills

Expert: JavaScript and TypeScript (with React, Next.js, Angular, Node.js, and Meteor), HTML, CSS, Three.js, WebGL, C++

Proficient: Java, Python, Julia, Swift, PostgreSQL, MongoDB, Redis, Selenium

AWS: S3, Lambda, DynamoDB, Step Functions, ECR, EC2, Batch, RDS

Other: Windows, Linux, Wireshark, Git, GitHub, Docker, Jira, REST APIs, Postman, CMake

Professional Experience

Apple

August 2023 – March 2024

Expert JavaScript/Three.js Developer – Contractor through TekSystems

Remote

- Developed features for an internal 3D web application written in TypeScript with Angular and Three.js used for visualizing and evaluating AI and machine learning output – specifics omitted due to NDA restrictions
- Implemented multiple large-scale frontend features using Angular, HTML, and CSS. For example, an interactive, paginated, sortable table with thousands of entries presenting data on all 3D objects in the 3D scene. It communicated with the scene, enabling selecting a row to zoom in on an object at a specific point in time. Styling was equally as important as functionality.
- Improved performance of the 3D component by creating a pooling and recycling system for applicable meshes and geometries
- Monitored large Slack channel to respond to user questions, bug submissions, and feature requests
- Led brainstorming meetings that led to the creation of dozens of tickets, taking ownership of the project
- Was on track to join full time, but the project was unfortunately canceled

NextDroid Inc.

July 2019 – July 2023

Full Stack Developer

Boston, MA

- Developed verification and validation systems for leading automakers and tier one manufacturers in the autonomous vehicle space
- Designed and implemented features for the data-heavy web application written in JavaScript with Node.js, React, and Meteor. For example, a page that allowed users to calibrate the locations of sensors on their vehicles, communicating with the PostgreSQL database to get current calibrations and save user edits
- Added features to the advanced 3D data visualizer, written with JavaScript and React using WebGL and Three.js. Features included object comparisons between customer data and NextDroid's ground truth, different options for pointcloud gradients, and measurement tools
- Improved performance of the data visualizer. Using techniques like instanced rendering, being smart about disposing of or reusing meshes, and general cleanup increased performance from about 20 FPS to a solid 60 FPS
- Maintained AWS infrastructure, including an efficient DynamoDB database used to index over 400 million S3 objects
- Created a Python Flask API that communicated with the 3D data visualizer to process user interactions in real time
- Led the design and implementation of an improved version of NextDroid's highly relational PostgreSQL database, which tracked customer vehicles, the runs completed with those vehicles, associated sensor calibrations, user configurations, and more
- Small team led to many leadership opportunities, like mentoring and supervising co-ops each semester and travelling independently to manufacturers to provide on-site demos and troubleshooting to engineers and managers

Lexington Solutions

July 2018 – December 2018

Quality Engineer Co-op

Boston, MA

- Developed and maintained Selenium and Rest Assured tests written in Java and Groovy
- Created, reconfigured, and monitored Jenkins builds and reported bugs to the team
- Developed a test suite for an XML importer

Other Interests

Video Games, Game Engine Programming, Guitar, Camping