

Daniel Duan

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Education

Bachelor of Science in Computer Science

Georgia Institute of Technology

Atlanta, GA, USA

08/2021 - Present
Expected 12/2024

Experience

Software Engineer Intern

Honeywell

Atlanta, GA

01/2023 - Present

- Working on fullstack development in an agile environment to build a software solution for government customers.
- Designed and implemented APIs to facilitate connection between data pipeline and the database/backend, along with key components of an automated alarm/notifications system. Used **Nest.js**, **TypeORM**.
- Defined database schemas for all data sources within application, responsible for implementation of data operations using **PostgreSQL**.
- Containerized and integrated IoT component with the application, enabling telemetry for thousands of assets as well as support for common protocols. Trained on and worked with **AWS IoT Hub** and **Greengrass** services along with EMQX and Mosquitto MQTT.
- Built interactive maps and visualizations in frontend webapp with **React.js** and **MUI** for live asset location and data tracking.
- Actively involved in application architecture design, performed multiple design spikes and demoed both internally and directly to customers.

Web Development Chair

Big Data Big Impact

Atlanta, GA

02/2022 - 01/2023

- Co-led a team to design and build the website for the Big Data Big Impact club providing information and services to over 100 active members.
- Created and implemented multiple pages and features, using **React.js** and **Bootstrap**, deploying the final product with Github pages.
- Organized tasks and training for new members, and led additional web based projects for smaller teams.

Undergraduate Student Researcher

Low Cost Aerial Autonomy

Atlanta, GA

01/2022 - 05/2022

- Part of the autonomy subteam, implemented a hybrid A* algorithm for aerial path planning with motion primitives using **NumPy**.
- Created and tested flight paths using generated libraries of aerial vehicle data in JupyterLab, and created three dimensional representation of results with **Matplotlib**.

Data Visualization Team Lead

Regional Socioeconomic Prediction

Atlanta, GA

09/2021 - 05/2022

- Led data visualization subteam in the regional socioeconomic prediction project, worked on frontend webapp for a predictive socioeconomic model based on satellite imagery.
- Implemented and improved on components of project frontend by redesigning the UI and combining data visuals into a single map using **React** and **D3.js**.

Projects

- **Twitter Clone:** Created a twitter web app clone using **Next.js** and **Tailwind**. Integrated Firebase Firestore for database and implemented CRUD capabilities for user posts. Used NextAuth.js for IAM, and implemented simple APIs for news and random account information. Deployed and hosted web app with Vercel. **(07/2022)**
- **Self-driving Car Simulation:** Built a car and traffic simulation using **HTML/CSS**, adding functionality for movement and collisions with **Javascript**. Setup collision sensors on the car and created a simple neural network with a genetic algorithm for changing car movement, with the program running until it could successfully move the car past all the traffic. **(06/2022)**

Skills

- Java | JavaScript | TypeScript | React | Nest.js | HTML | CSS | Tailwind | MUI | Next.js | PostgreSQL | AWS IoT | Docker | Git
- English, Chinese