

Daniel Liem

[LinkedIn](#) | danielliem49@gmail.com | (646) 980-9802

EXPERIENCE

Software Engineer

San Jose, California

Archer Aviation

Aug 2023 – Present

- **Lead Developer:** In-house lab management and versioning control software, consisting of a full-feature internal website used as the single-source-of-truth for hardware, software, inventory, and configuration management across 12+ integrated labs and 10+ teams. Patent pending. Technologies include React, Hasura (GraphQL Engine), Gin, PostgreSQL, Docker, AWS, and TeamCity
- **Lead Developer:** Lab visualization and synoptics iPad app currently used for interacting with the Archer integrated labs, increasing day-to-day productivity, company marketability, and shareholder confidence. Capabilities include aircraft status reporting, 3D model visual analysis, live data feedback, and fault injection. Built with Unreal Engine
- **Developer:** XR work on a mixed-reality flight simulator, with visual passthrough inside the cabin and simulated environment out the aircraft windows, enabling a more realistic visual environment for pilots and better human factors evaluation
- **Miscellaneous:** Mentored 3 junior engineers, assisted with Agile planning and Jira organization, authored technical documentation and architecture diagramming

Consultant

Boston, Massachusetts

HMMH

Aug 2021 – Aug 2022

- Established data analysis processes for the NASA X-59 Quiet Supersonic Aircraft Project, successfully transitioning the project from the planning phase into execution
- Implemented Python web parsers, automation scripts, and project-specific programs for company-wide use, increasing the company's in-house software library and capabilities
- Conducted sound insulation fieldwork and analysis for Chicago Executive Airport and Baltimore/Washington International Thurgood Marshall Airport, reducing residential noise-metrics by 47%

Flight Control Systems Engineer

Beijing, China

Tsinghua University UAV Design Lab

Jun 2019 – Jun 2021

- Conducted test-flights, prototype development, and post-flight analysis for fixed-wing and rotary-wing UAV projects
- Successfully developed Pixhawk-based autonomous flight control systems utilizing PX4 and QGroundControl
- Won 2nd Place at the 2019 national CADC tournament (payload delivery category)

EDUCATION

App Academy

San Francisco, California

Curriculum of Study in Full Stack Development (Ruby on Rails, JavaScript, React, Redux, MERN)

Nov 2022 – Mar 2023

Tsinghua University

Beijing, China

Bachelor of Engineering in Aeronautical and Astronautical Engineering

Class of 2021

- 1st in Class Ranking (2021 Tsinghua Aerospace Engineering, International Cohort)
- 2018 Recipient of the Outstanding International Students' Scholarship

Beijing Language and Culture University

Beijing, China

Curriculum of Study in Mandarin Chinese

Aug 2016 – Aug 2017

PROJECTS

Chromesthesia

[Live](#) | [GitHub](#)

JavaScript, HTML/CSS, Webpack

- Applied a Javascript implementation of the simplexnoise algorithm to allow for natural textures and aesthetics
- Created a particle coloring and movement system using HSLA manipulation and Canvas API to simulate realistic paint motion
- Implemented a combination of `setTimeout()`, `async` functions, and other asynchronous programming principles as well as event handling to allow graphics to be reset by the user either on timer or on relick

- Built a control panel UI using DOM manipulation and CSS styling to enable real-time interactivity

Pathfinder

[Github](#)

Ruby on Rails, JavaScript, Google Maps API, AWS S3, React, Redux, PostgreSQL

- Designed a well-organized relational database schema using Rails migrations, adhering to Model-View-Controller (MVC) architecture to ensure efficient data management and maintainability of code
- Leveraged a PostgreSQL database using Active Record to create database schemas and simplify data querying and updates
- Developed full CRUD functionality for user comments on trails using the Rails framework, implementing RESTful backend routes, model validations, and database constraints
- Utilized the Redux with Rails cycle to develop efficient state management for application data of trails, parks, and reviews, as well as enable a search feature
- Integrated Google Maps API to enable trail maps and location services

Orcastra

[Github](#)

MongoDB, Mongoose, Express, Node.js, JavaScript, React, Redux, MUI, AWS S3

- Spearheaded team front-end direction by creating the initial application wireframe using Figma and initiating collaborative team discussions on brand vision, persona, and aesthetics
- Built scalable React components, utilizing a mix of custom components and MUI for enhanced visual appeal. Incorporated a combination of CSS and the AOS library to create smooth element animations
- Collaborated with a team of three engineers to synchronize Node backend with front-end efforts via Redux global state. Utilized git workflow to avoid merge conflicts and used Notion to establish team responsibilities
- Implemented AWS S3 for trail data and photo storage, allowing for scalability of image services and reduced server load

SKILLS

Python, Bash and PowerShell Scripting, Golang, Gin, JavaScript, React, Node.js, Webpack, TypeScript, HTML, CSS, Schema Design, Database Management Tools, SQL Migrations, SQL, NoSQL, GraphQL, Hasura, Frontend Libraries (MUI, Bootstrap, PrimeReact, Tailwind, Bulma), Redux, Ruby, Ruby on Rails, Communication Protocols (HTTP/HTTPS, UDP, TCP/IP), AWS S3, CICD (TeamCity), Agile, Jira, Jest, Testing, Test Case Development, Figma, Lucid, GUI Development, UIUX, Technical Writing, Diagramming, Unreal Engine