

# Andrew Zhang

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## Education

**University of California, Los Angeles**  
*BS in Mathematics of Computation*

**Sep 2021 - Jun 2025**  
*Los Angeles, CA*

## Skills

**Languages:** C++, Python(FastAPI, Flask, Pandas, NumPy, PyTest), Typescript, JavaScript, HTML/CSS, Go, Java, SQL, NoSQL, PostgreSQL, C, C#, JS Frameworks(React, Next, Node)

**Big Data & Cloud:** AWS (EC2, S3, Lambda, DynamoDB), MongoDB, Redis, Docker, Kubernetes, GitHub Actions (CI/CD)

**Technical Skills:** Version Control, Data Structures & Algorithms, CI/CD pipelines, Front-end & Back-end Development

## Experience

**Summer Software Engineer**  
*Hemut [YC X25]*

**July 2025 - Ongoing**  
*Rockford, IL*

- Building AWS-hosted micro-services (FastAPI + PostgreSQL back-end, Next.js front-end) that power Hemut's unified trucking management system(TMS): load tracking, accounting, live progress tracking, and AI-driven document workflows—for carriers operating 200+ trucks across the U.S.
- Utilize trucks' telemetry and ELD(electronic logging device) to implement real-time load dispatch, ingest >1 M events/day and use Anthropic Claude LLMs for multilingual voice booking, cutting dispatcher admin time 40% while boosting route fuel efficiency.

**Software Engineer Intern**  
*Tailorflow AI*

**March - June 2025**  
*San Francisco, CA*

- Built FastAPI microservices (Python) for onboarding workflows; leveraged Redis for state management, reducing API latency by 40%
- Developed reusable UI components (dynamic checklists and progress tracking) with shadcn/ui for the chatbot interface and onboarding dashboard, boosting user engagement by 2x and reduced UI-related bug reports by 40%.

**Software Engineer Intern**  
*OpenQQuantify*

**Jul 2023 - Sep 2023**  
*Remote*

- Authored Python ETL pipelines (Pandas, SQLAlchemy) to ingest 10M+ records from APIs, normalized data, and loaded into PostgreSQL—50% faster than prior scripts.
- Conducted validation tests with Jest and PyTest, achieving a 98% accuracy rate in data outputs generated from the AI-driven systems
- Redesigned PostgreSQL queries and optimized query indexing to increase data retrieval speed by 30% across 10,000+ records

**Lead Software Developer**  
*BruinLabs*

**Jun 2022 - Sep 2022**  
*Los Angeles, CA*

- Developed a prototype app + website using HTML, CSS, JavaScript, and Swift, creating a functional demo capturing investor interest
- Implemented real-time notifications & dynamic content updates, reducing data latency by 3x and boosting user engagement by 2.7x

## Projects

**Q&A Dashboard | Next.js, FastAPI, WebSockets, SQLite**

**Jun 2024**

- Built real-time Q&A dashboard (Next.js + WebSockets, FastAPI) that auto-sorts live questions and lets admins escalate/close threads
- Developed SQLite-backed auth and CRUD APIs with role-based access control and real-time updates, shipping CI-ready code

**ContactOrganizer | Node.js, Express.js, MongoDB, JWT**

**Jun 2024**

- Architected a robust backend API for managing complex contact information, employing Express.js for scalable server-side logic
- Designed and optimized MongoDB schemas using Mongoose, ensuring efficient data management for user and contact relationships
- Implemented JWT-based authentication and authorization mechanisms, enhancing application security by securing API endpoints
- Developed custom middleware for complex error handling and token validation, enhancing application's security and stability

**3D Basketball Game | Python, JavaScript**

**July 2023 - Sep 2023**

- Engineered an immersive 3D basketball game utilizing a custom JavaScript library as an innovative alternative to WebGL
- Implemented advanced 3D modeling techniques (precision collision detection algorithms, dynamic lighting, shadow rendering effect)
- Optimized performance to ensure smooth gameplay experience and enhanced user engagement through realistic in-game physics

**B-Link | MERN Stack(MongoDB/Express/React/Node.js)**

**Jun 2022**

- Created full-stack web application using MERN stack, incorporating real-time updates and user authentication for seamless experience
- Crafted intuitive and responsive UI with CSS, enhancing user experience through effective sorting, filtering, and unique user profiles
- Employed agile methodologies and version control to streamline development, leading extensive usability testing to meet user needs