

Andrew Zhang

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Education

University of California, Los Angeles
BS in Mathematics of Computation

Sep 2021 - Dec 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): price quoting based off real time rates, optimized scheduling of drivers to loads, live progress tracking, accounting, and **AI-driven** document parsing, for carriers operating **200+** trucks across the U.S.
- Automated dispatcher call handling with a real-time voice agent built on **Twilio**, **OpenAI Whisper** (multilingual speech-to-text), **LLM-driven** orchestration, and **ElevenLabs TTS**, integrated with **PostgreSQL**, **Redis**, **S3**, and **Pinecone** for contextual retrieval — processing **1M+** events/day, cutting dispatcher administration time by **60%**
- Implemented a **real-time load tracking** system by integrating trucks' Electronic Logging Devices (ELDs) with **Google Maps API** for geospatial visualization and **WebSockets** for live location updates, enabling dispatchers and customers to monitor shipments in transit with minimal latency

Software Engineer Intern
Tailorflow AI

Mar 2025 - Jun 2025
San Francisco, CA

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

Software Engineer Intern
OpenQQuantify

Jul 2023 - Sep 2023
Remote

- Optimized **Python** ETL pipelines (**Pandas**, **SQLAlchemy**) to ingest **10M+** records from **APIs**, normalize datasets, and load into PostgreSQL, achieving **50%** faster processing compared to legacy scripts
- Executed comprehensive validation suites using **Jest** and **PyTest**, ensuring **93%** accuracy in **LLM-processed** outputs
- Increased data retrieval performance by **30%** across **10,000+** records through **PostgreSQL** query optimization and indexing

Lead Software Developer
BruinLabs

Jun 2022 - Sep 2022
Los Angeles, CA

- Built cross-platform application (**React**, **Tailwind CSS**, **SwiftUI**) that secured investor interest and validated product viability

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 admin 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

- Built backend APIs (**Node.js**, **Express.js**) with optimized **MongoDB/Mongoose** schemas for efficient user & contact management
- Implemented **JWT authentication/authorization** and custom **middleware** for error handling and token validation, improving security and stability

3D Basketball Game | Python, JavaScript

July 2023 - Sep 2023

- Developed using custom **JavaScript** rendering library as an alternative to WebGL for **3D scene management**
- Applied precision collision detection, dynamic lighting, shadow rendering, and physics in **Python** to enhance realism and performance

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

Jun 2022

- Developed full-stack **MERN** application featuring real-time updates, secure authentication, and a responsive **React** + **Tailwind CSS** UI for advanced sorting, filtering, and custom profiles
- Streamlined development and ensured quality through **agile workflows**, **Git version control**, and **iterative usability testing**