




# ANDREW ZHANG

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## EDUCATION

University of California, Los Angeles

Bachelor of Science, Math of Computation

Sep 2021 - Jun 2025

Los Angeles, CA

## EXPERIENCE

Reality AI Lab

Feb 2025 - Ongoing

Software Engineer Intern

Remote

- Integrated FastAPI endpoints with Google Cloud Vertex AI, boosting data throughput and reducing API response latency by 25%
- Developed automatic outline-to-slide generator with Next.js, React, and jsPDF, completely eliminating manual slide creation time
- Implemented advanced state management with Redux Toolkit onto Next.js/React front-end, reducing initial load times by 35%

OpenQQuantify

April 2024 - Aug 2024

Software Engineer Intern

Remote

- Developed Python scripts integrated with OpenAI APIs to automate the processing of large datasets, increasing efficiency by 50%
- 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

UCLA Research

Nov 2022 - April 2024

Student Software Systems Researcher

Los Angeles, CA

- Researched and implemented deep learning techniques (Convolutional Neural Networks), improving image recognition accuracy by 25%
- Preprocessed and normalized image datasets for training and test sets, enhancing the model's training efficiency by 120%
- Optimized CNN models to improve autonomous navigation accuracy by 1.7x and optimized delivery efficiency by 1.5x

BruinLabs

Jun 2021 - Sep 2022

Lead Software Developer

Los Angeles, CA

- Developed a prototype app + website using HTML, CSS, JavaScript, and Swift, creating a functional demo capturing investor interest
- Utilized Git version control to streamline workflows, cutting merge conflicts by 50% and expediting feature integration by 170%
- Implemented real-time notifications and dynamic content updates, reducing data latency by 3x and boosting user engagement by 2.7x

## PROJECTS

3D Basketball Game | JavaScript

Jul 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, and shadow rendering effect
- Optimized performance to ensure smooth gameplay experience and enhanced user engagement through realistic in-game physics

MatchFinder | C++

Oct 2022

- Developed a dating app prototype with an auto-populated database of over 100,000 member profiles, leveraging C++ for efficiency
- Implemented a radix tree data structure to effectively map user attributes, significantly accelerating query processing times by over 50%
- Designed algorithm to translate members' user inputs into compatible attributes, increased efficiency of finding ideal matches by 70%

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

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

Jun 2022

- Created a full-stack web application using MERN stack, incorporating real-time updates and user authentication for a seamless experience
- Crafted an 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

Portfolio Website | HTML/CSS

Jun 2023

- Designed and launched a responsive & interactive personal portfolio website, leveraging HTML5 and CSS3 for optimal Front-end
- Deployed on a custom domain & features a user interface with seamless navigation and optimized load times for improved user experience

## SKILLS

- C++, Python, HTML/CSS, Javascript, Git, Node.js, React.js, C, Java, MongoDB, SQL, RESTful API, version control, algorithms, data structures, front-end development, back-end development, database management