ANDREW ZHANG

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EDUCATION

University of California, Los Angeles   **Sep 2021 - Dec 2025**
Bachelor of Science, Computer Science   *Los Angeles, CA*
GPA: 3.7

EXPERIENCE

OpenQQuantify   **Apr 2024 - Ongoing**
Generative AI Engineering Internship   *Remote*
- Implemented code using OpenAI APIs to automate data processing tasks, ensuring accurate calculations and increasing efficiency by 50%
- Performed validation tests using Jest and PyTest, achieving an 98% accuracy rate in the data outputs generated from the AI-driven systems
- Improved PostgreSQL database, optimizing query performance and increasing data retrieval speed by 30% for over 10,000 records

UCLA Research Center   **Nov 2021 - May 2024**
Student Researcher   *Los Angeles, CA*
- Researched and implemented deep learning techniques (Convolutional Neural Networks), improving image recognition accuracy
- Preprocessed and normalized image datasets for training and test sets, enhancing the model's training efficiency by 120%
- Optimized the CNN model, resulting in 1.7x improved autonomous navigation accuracy and 1.5x delivery efficiency

BruinLabs   **Jun 2021 - Sep 2022**
Lead Software Developer   *Los Angeles, CA*
- Created and designed prototype app+website using HTML/CSS, JS, and Swift, resulting in a functional demo for potential investors
- Utilized Git version control to improve current designs/features in a team working environment, enhancing collaboration and code quality
- Debugged complex technical issues and implemented strategic solutions, ensuring timely and efficient achievement of project milestones

USACO (USA Coding Olympiad)   **Sep 2019 - Nov 2021**
Competitive Programmer   *Remote*
- Competed in 10+ gold level USA Coding Olympiad competitions, developing proficiency in problem solving
- Solved complex problems using advanced data structures, improving algorithm design skills and reducing time complexity in solutions
- Applied skills in graphs, trees, heaps, tries, searching, sorting, dynamic programming, and debugging to solve complex coding challenges

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