

Richard Zhang

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WORK EXPERIENCE

OinAuto

Irvine, CA

Software Development Engineering Intern

Jul 2024 - Sep 2024

- Spearheaded testing and optimization of object detection models using OpenCV and SSD MobileNet V3, boosting autonomous system detection accuracy to 90%.
- Tuned model parameters, including input image size and confidence thresholds, resulting in a 25% increase in detection precision.
- Processed live camera data and developed real-time bounding box visualizations for over 10 object classes to enhance model performance analysis.

Patriot Conceptions

Costa Mesa, CA

Full-Stack Software Development Intern

Aug 2023 - Jan 2024

- Led front-end development of production web applications with Next.js, TypeScript, and React.js, optimizing client-side performance and driving a 25% increase in user engagement.
- Engineered scalable back-end solutions using Node.js, integrating Google Firebase and Algolia to optimize data retrieval times by 50%.
- Collaborated with UI/UX designers to implement responsive interfaces using Figma, Material 3, MUI, and custom CSS architecture.

Cal Poly Pomona CS Research

Pomona, CA

Research Assistant

Dec 2021 - Feb 2022

- Developed and launched DigiPrescription, a HIPAA-compliant prescription storage app aligned with Pharmacy Laws, piloted with local pharmacies.
- Improved medical data analysis efficiency by researching complex databases using Flutter and Dart in Android Studio.
- Published research on DigiPrescription and filed a U.S. patent application.

Coding Minds

Irvine, CA

Instructor

Sep 2021 - Jun 2025

- Delivered personalized instruction in Python, JavaScript, and Java for students from elementary to high school.
- Developed custom learning modules and project-based curriculum to strengthen problem-solving and programming skills.
- Taught 20 students, helping them improve their programming course performance significantly.

PROJECTS

AI Essay Revision & Feedback Model ("ReviseAI")

May 2025 - Present

- Built an essay evaluation system using Hugging Face Transformers, RoBERTa, BART, and SentenceTransformers to assess semantic meaning and reflective depth.
- Created a reflection scoring framework with cosine similarity to detect and highlight reflective statements in student essays.
- Delivered an end-to-end pipeline with NLTK and PySBD preprocessing, providing real-time, actionable essay feedback.

AI News Consensus Tool ("UnbiasedNews")

Jun 2025 - Present

- Built a multi-source news aggregation pipeline with NewsAPI, YAKE keyword extraction, and spaCy NLP to cluster and analyze multi-source articles.
- Implemented resilient text extraction with trafilatura, readability-lxml, and BeautifulSoup, ensuring reliable full-text retrieval.
- Developed real-time summarization pipelines in Python with BART for unbiased, low-latency article summaries.

EDUCATION

University of California-Irvine

Irvine, CA

B.S., Computer Science, Intelligent Systems Specialization

Aug 2025

SKILLS

Python • Java • C++ • HTML/CSS/JavaScript • TypeScript • React.js • Next.js • Node.js • Flutter • Dart • Hugging Face • RoBERTa • BART • OpenCV • spaCy • YAKE • NLP • Firebase • Algolia • REST APIs • Git/Github • Agile • Data Processing Optimization • Material UI • Figma • Go • Rust • CI/CD • Docker • SQL • Cypress • Express • ESLint • AWS • OOP • Linux • Pytorch • Angular.js