Andy Tran

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Education

Georgia Institute of Technology **Dec. 2027**
Master of Science in Computer Science (specialization in AI / ML)

University of California, Riverside **June 2024**
Bachelor of Science in Computer Science GPA: 3.8
Relevant Coursework: Software Construction, Data Structures and Algorithms, Database Management Systems, Operating System Design, Data Analysis Methods, Algorithm Engineering, Web Development Principles, Artificial Intelligence

Technical Skills

Languages: Python, C++, Javascript, SQL, Dart, Swift, Java, C#/.NET, HTML/CSS
Frameworks/Libraries: React, Next.js, Node.js, Express.js, Flutter, Flask, Django, SpringBoot, GraphQL, Bootstrap, Pandas, Tailwind
Tools: Git, Docker, Kubernetes, AWS, Microsoft Azure, CI/CD, Firebase, MongoDB, Linux, PowerShell, Bash, Typescript

Work Experience

Lead Software Engineer | *Voodies* **Dec. 2024 - Present**

- Led the architecture of core features for a food-centric social app using **Flutter** and **Supabase**, developing an agile restaurant tagging system and a dynamic discovery page leveraging custom **SQL functions** for real-time video review retrieval.
- Engineered scalable **PostgreSQL** schemas to support **500+** user profiles with high data consistency via constraint-based validation and **RLS policies** for granular access control, establishing foundations for robust user expansion during the first-quarter beta.
- Optimized API performance and cost efficiency with the **Google Places API** with debouncing and a multi-tier caching system reducing per-user API calls from **3,500+** to **120**, cutting API costs from **$9.91 to $0.34** and restaurant tagging process by **400ms.**
- Developed custom **SQL functions** for radius-based and engagement algorithms that process data from **200+** restaurants and **150+** video uploads, and a concurrent marker generation pipeline with in-memory caching to improve map interactivity dramatically.

Contract Back-End Software Engineer | *Vitalis Solutions Group* **Oct. 2024 - Dec. 2024**

- Built and deployed a scalable **Learning Management System** with **Node.js, Express.js,** and **MongoDB** (NoSQL), achieving **99.9%** uptime and reducing response times by **70%** using **Redis** caching and optimized API endpoints for improved user engagement.
- Designed secure **RESTful APIs** with **JWT-based** authentication and role-based access control (RBAC), enabling user onboarding, social authentication via **Google OAuth**, and secure session management, resulting in **30%** reduction in production bugs.
- Implemented **CI/CD pipelines** with **Vercel** and **Heroku**, reducing deployment times by **90%** and automating error detection, while conducting comprehensive unit and integration testing with **Jest** and **Postman** to significantly improve system reliability.
- Conducted load testing simulating **15k** concurrent users with **Artillery.io**, identifying **12** bottleneck endpoints for further tuning.

Full-Stack Web Developer | *Jjamppong Zizon* **Jul. 2024 - Oct. 2024**

- Spearheaded a complete redesign of the company's flagship website, increasing conversion rates by **25%** and reducing customer support inquiries by **40%** through user-focused improvements and multi-language support for North American and Asian markets.
- Deployed containerized infrastructure using **Docker** and **Nginx** with **SSL encryption** to safeguard back-end operations, boosting security confidence metrics by **70%** and streamlining the CI/CD process for faster, more reliable deployments.
- Integrated a custom CRM with the **Gmail API** to automate workflows, reducing administrative tasks by **85%**, saving **$5,000** annually and streamlining operations with email-driven automation for swift data processing and scalable team support.

Undergraduate AI Research Assistant | *University of California, Riverside* **Jun. 2023 - Mar. 2024**

- Collaborated with graduate students on an advanced capstone project to develop a local **NLP chatbot** using a modified **Retrieval Augmented Generation (RAG)** model, enabling engaging, historically-inspired conversations as an innovative educational tool.
- Engineered a **Jetson Nano**-powered presence detection algorithm, enhancing virtual environment accuracy by **30%.**
- Optimized eye-tracking algorithms using **OpenCV** with augmented tracking and analytics, delivering natural avatar behaviors for immersive virtual experiences. Refined real-time processing pipelines to reduce latency by **50%** and enhance user interactions.

Projects

NBA Player Performance Projection Model | *Python, Pandas, NumPy* **Sep. 2024 - Oct. 2024**

- Developed a machine learning-based player projection model inspired by **KNN** and factor-adjusted team similarity, normalizing player data across seasons from **1996 to 2018** by analyzing the **10** most similar historical player seasons.
- Ranked similar player seasons using weighted averages to project next-season stats for points, assists, and rebounds, achieving **98.03% accuracy** against ESPN and NBA Reference, and outperformed FantasyPros, yielding a **0.46%** higher confidence level.
- Enhanced **fantasy points prediction precision** by incorporating player role, positional context, and team dynamics, reducing predictive error through iterative testing and adjustments.