Alex Chen

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EDUCATION

University of Tennessee - Knoxville — Expected Graduation - December 2026
Bachelor of Science in Computer Science — GPA: 3.81

EXPERIENCE

University of Tennessee — Knoxville, TN
Incoming Machine Learning Research Assistant — August 2025
- Leading full-stack development for NLP-based research project funded by **Oak Ridge National Laboratory**.

AskNexus.AI — Knoxville, TN
Software Engineer Intern — March 2025 - August 2025
- Optimized SQL queries and refactored REST endpoints with FastAPI, reducing response times by up to **83%**.
- Automated ETL processes and streamlined data integration via Azure Function Apps, cutting client on-boarding time by up to **54%**.
- Resolved critical bugs in the mobile app using React Native and C#, reducing crash rates by **38%**.
- Collaborated with CEO and CSMs to create an internal support system in app with email integration via React and Python, replacing manual inbox workflows and cutting ticket handling time by **41%**

Atlas Esports Consulting — Remote
Software Engineer Intern — August 2024 - February 2025
- Built esports platform with React, Node.js, and Python for managing profiles, tournaments, and schedules.
- Integrated player stats via Riot API and a Redis caching layer, reducing detailed report load times by **15%**.
- Engineered APIs with Flask for real-time Twitch streams and videos, boosting website visits by **62%**.

Zhao Robot Lab — Knoxville, TN
AI/ML Research Assistant — December 2023 - May 2024
- Leveraged LLMs (e.g. GPT, Llama, Qwen) to extract linguistic patterns from responses for Alzheimer's research.
- Integrated RAG systems with FAISS vector indexing, increasing relevant data retrieval precision by **27%**.
- Collaborated to accelerate user experience for study subjects, cutting experiment times by up to **30%**.

PERSONAL PROJECTS

Float.AI - Embedded AI Coach | *React, FastAPI, OpenAI API, DynamoDB, Overwolf, Azure, PyTorch*
- Developed a Valorant AI Agent, using Python microservices to generate context-aware guides and suggestions.
- Trained reinforcement learning models using 200+ pro matches to deliver optimal setups and strategies.
- Enhanced and deployed backend services using Azure and Render, incorporating load balancing to decrease AI response time by **21%**.

SpeakGeek - Google AI Hackathon | *React, Firebase, TailwindCSS, Gemini*
- Built immersive mock interview app with React/Firebase, offering comprehensive live feedback and practice.
- Led live-streaming feature with **95%** accuracy using Google Speech API for text-to-speech integration.
- Integrated Google's Gemini API to improve natural language understanding, resulting in a **25%** increase in user confidence as reflected in post-use surveys.

Jukebox'd - Social Platform for Music | *React, Flask, AWS, TailwindCSS*
- Led a team of 4 to launch a platform for music lovers, featuring real-time chat, forums, and reviews.
- Engineered responsive, interactive UI with React and TailwindCSS, enabling browsing, posting, and discussions.
- Implemented WebSocket-powered messaging and Flask APIs with caching, allowing for seamless communication.

TECHNOLOGIES & CONCEPTS

Languages: Python, JavaScript, C#, C++, Kotlin, Java, SQL, HTML/CSS
Frameworks/Libraries: React, Next.js, Node.js, Express.js, LangChain, PyTorch, Flask, FastAPI, Pandas, Numpy
Technologies/Tools: Git/GitHub, AWS, Azure, Jupyter Notebook, Docker, Firebase, MongoDB, DynamoDB
Concepts: Machine Learning, Deep Learning, Computer Vision, Frontend, Backend, Agile Methodologies, NLP, Data Science, Data Analysis, Software Engineering, Object-Oriented Programming, Functional Programming, and REST