

# Alex Chen

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## EDUCATION

**University of Tennessee - Knoxville**  
*Bachelor of Science in Computer Science*

Expected Graduation - December 2026  
GPA: 3.81/4.00

## EXPERIENCE

<b>Multimodal Analytics, Reasoning, and Computational Imaging</b> <i>AI/ML Research Assistant</i>	Knoxville, TN August 2025 - Present
<ul style="list-style-type: none"><li>Developing infrastructure for national security initiative sponsored by <b>Oak Ridge National Laboratory</b>.</li><li>Implementing machine learning pipelines for text classification and entity extraction on sensitive datasets.</li><li>Training transformer models (e.g. BERT) to detect linguistic and semantic patterns in conversational transcripts.</li></ul>	
<b>AskNexus.AI</b> <i>Software Engineer Intern</i>	Knoxville, TN March 2025 - August 2025
<ul style="list-style-type: none"><li>Optimized SQL queries and refactored REST endpoints with FastAPI, reducing response times by up to <b>38%</b>.</li><li>Automated ETL processes and streamlined data integration via Azure Function Apps, cutting client on-boarding time by up to <b>54%</b>.</li><li>Resolved critical bugs in the mobile app using React Native and C#, reducing crash rates by <b>38%</b>.</li><li>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 <b>41%</b>.</li></ul>	
<b>Atlas Esports Consulting</b> <i>Software Engineer Intern</i>	Remote August 2024 - February 2025
<ul style="list-style-type: none"><li>Built esports platform with React, Node.js, and Python for managing profiles, tournaments, and schedules.</li><li>Integrated player stats via Riot API and a Redis caching layer, reducing detailed report load times by <b>15%</b>.</li><li>Engineered APIs with Flask for real-time Twitch streams and videos, boosting website visits by <b>62%</b>.</li></ul>	
<b>Zhao Robot Lab</b> <i>AI/ML Research Assistant</i>	Knoxville, TN December 2023 - May 2024
<ul style="list-style-type: none"><li>Leveraged LLMs (e.g. GPT, Llama, Qwen) to extract linguistic patterns from responses for Alzheimer's research.</li><li>Integrated RAG systems with FAISS vector indexing, increasing relevant data retrieval precision by <b>27%</b>.</li><li>Collaborated to accelerate user experience for study subjects, cutting experiment times by up to <b>30%</b>.</li></ul>	

## PERSONAL PROJECTS

<b>Float.AI - Embedded AI Coach</b>   <i>React, FastAPI, OpenAI API, DynamoDB, Overwolf, Azure, PyTorch</i>
<ul style="list-style-type: none"><li>Developed a Valorant AI Agent, using Python microservices to generate context-aware guides and suggestions.</li><li>Trained reinforcement learning models using <b>200+</b> pro matches to deliver optimal setups and strategies.</li><li>Enhanced and deployed backend services using Azure and Render, incorporating load balancing to decrease AI response time by <b>21%</b>.</li></ul>
<b>SpeakGeek - Google AI Hackathon</b>   <i>React, Firebase, TailwindCSS, Gemini</i>
<ul style="list-style-type: none"><li>Built immersive mock interview app with React/Firebase, offering comprehensive live feedback and practice.</li><li>Led live-streaming feature with <b>95%</b> accuracy using Google Speech API for text-to-speech integration.</li><li>Integrated Google's Gemini API to improve natural language understanding, resulting in a <b>25%</b> increase in user confidence as reflected in post-use surveys.</li></ul>
<b>Jukebox'd - Social Platform for Music</b>   <i>React, Flask, AWS, TailwindCSS</i>
<ul style="list-style-type: none"><li>Led a team of 4 to launch a platform for music lovers, featuring real-time chat, forums, and reviews.</li><li>Engineered responsive, interactive UI with React and TailwindCSS, enabling browsing, posting, and discussions.</li><li>Implemented WebSocket-powered messaging and Flask APIs with caching, allowing for seamless communication.</li></ul>

## 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