

# Siwan Yang

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## EDUCATION

### Georgia Institute of Technology

Bachelor of Science

Major in Computer Science; Specialization: Intelligence/Info-Internetworks

Relevant Courseworks: Database System, Intro-Artificial Intell, Data Structure & Algorithm, Computer Organization & Program

Atlanta, GA

Expected Graduation: Spring 2026

## SKILLS

- **Programming & Development:** Java, Python, C, C++, SQL, Javascript, R, React, Next.js, TailwindCSS, RESTful APIs
- **AI & Machine Learning:** AI API Integration, Retrieval-Augmented Generation (RAG), Embeddings, Vectorization
- **Databases & Cloud:** MongoDB, Firebase, MySQL, Vercel, Supabase, Firebase
- **Testing & DevOps:** Unit Testing (Automated Testing), Docker, Git, Android Studio
- **Collaboration & Methodologies:** Agile Development, Technical Communication, Team Leadership

## EXPERIENCE

### Undergraduate Research Assistant

Georgia Institute of Technology - NLPx Lab

Atlanta, GA

Aug 2024 – Dec 2024

- Collaborated with a Postdoctoral researcher to develop chatbot safety annotation guidelines, contributing to a standardized taxonomy for evaluating NLP-generated responses in car repair contexts.
- Labeled and audited 1,000+ conversational exchanges, identifying hallucinations, incorrect responses, and structural weaknesses in AI-generated answers.

### Software Engineering Intern

IBM Research - Open Liberty

Atlanta, GA

May 2024 – Aug 2024

- Designed and implemented a Java-based web application utilizing JMS, RESTful APIs, and Open Liberty, enabling asynchronous communication between microservices, improving message processing efficiency and system reliability.
- Developed and authored a 3,000+ word technical guide on setting up Jakarta Messaging with Liberty Messaging Server and IBM MQ, now published as an official Open Liberty guide.
- Optimized automated testing for Open Liberty guides by modifying YAML-based test workflows, reducing CI/CD failures by 90% and improving test coverage across all related documentation.

## PROJECTS

### Personal Assistant Chatbot

React.js, Node.js, Express.js, OpenAI API (GPT-3.5 Turbo), Fuse.js, JSON, Vercel

- Developed a full-stack AI chatbot integrating GPT-3.5 Turbo and a custom JSON dataset to generate personalized responses.
- Implemented intelligent search with Fuse.js, optimizing similarity matching for precise information retrieval.
- Expanded dataset coverage by adding 100+ structured data points, improving response accuracy and relevance for user queries.
- Enhanced user experience with automatic scrolling, interactive question buttons.

### US Airline Sentiment Classifier

C, Naive Bayes, NLP Preprocessing (Tokenization, Normalization, Stopword Removal), Log-scaling

- Developed a sentiment classification system in C using the Naive Bayes algorithm, achieving 80% accuracy in distinguishing negative vs. non-negative airline comments.
- Engineered a trainer module to preprocess data—tokenization, normalization, and stopwords removal—for structured sentiment analysis.
- Built a predictor module that calculates word probabilities with log-scaling to generate sentiment predictions.

## LEADERSHIP EXPERIENCE

### Founder & Team Lead - Buzzbot (Georgia Tech AI RAG Chatbot)

Georgia Institute of Technology

Atlanta, GA

Jan 2025 - Present

- Founded and led the development of a Retrieval-Augmented Generation (RAG) chatbot for Georgia Tech, managing subteams across AI/LLM, Full Stack, and Dataset pipelines.
- Spearhead full-stack chatbot development using Next.js and Tailwind CSS, creating a smooth UI with responsive and animated components for better user experience.
- Built an efficient retrieval system using ChromaDB and Claude 3.5, combining embedding-based techniques to improve accuracy in retrieving GT-related information.
- Applied prompt engineering to enhance response clarity and ensure reliable real-time answers.