

Erik Liu

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EDUCATION

Georgia Institute of Technology; Atlanta, Georgia

GPA 4.0/4.0 Expected May 2025

- Bachelor of Science in Computer Science with concentrations in Artificial Intelligence & Information Internetworks
- **Teaching Assistant** for Database Systems, held teaching sessions and designed projects for over 2,000 students
- **Research Assistant at Georgia Tech FinTech Lab** with paper on NFT fraud detection published at KDD conference

SKILLS

- Programming languages: Java, Python, JavaScript, SQL, HTML, CSS
- Technical skills: REST APIs, AWS, Google Cloud, Kubernetes, gRPC APIs, Django, PostgreSQL, GraphQL, Spark
- Other skills: Communication, Database Systems, Networking, Machine Learning, Data Structures, Algorithms, NLP

WORK EXPERIENCE

Software Engineer Intern (Direct Connect) at Amazon Web Services, Inc., Seattle, U.S.

Jun 2023 – Aug 2023

- Spearheaded the design, development, and successful implementation of a **scalable internal service that processes global network impacts** for manager auditing and **notifies impacts to an average of 6,000+ customers daily**
- Leveraged Java, AWS Fargate, DynamoDB, Quantum Ledger DB, and AWS CDK to improve service scalability
- Partnered closely with Network Operations team to identify more varieties of impacts and design outreach messages
- Provided a well-documented set of **API** endpoints that caters to all use cases within the organization
- Refactored legacy code to improve maintainability and optimized workflow to reduce latency of alert process by **60%**

Software Engineer Intern at Popmenu, Inc., Atlanta, U.S.

May 2022 – Aug 2022

- Engineered a text-based **chatbot that answers customer questions** on the front page of **over 10,000 restaurants**
- Remodeled existing voice chatbot's **Django-based** backend to resolve text input from web interface
- Leveraged RabbitMQ queues to stream events, making the service capable of **handling high volume of requests**
- Connected frontend to chatbot service through GraphQL and built reusable components for interface with React
- Wrote unit tests for both the interface and the backend with Cypress and pytest

Software Engineer Intern at HUILAN Healthcare Technology Co. Ltd.

May 2021 – Aug 2021

- Developed a **web dashboard for glucose tracker device management** deployed in **over 40 hospitals**
- Reduced **20%** of front-end codebase by building more than 20 **flexible React components** used across teams
- Improved efficiency of conducting nursing diagnosis by 30% through visualizing glucose level data with D3.js
- Utilized HTML, CSS, JavaScript, and React for the frontend, and Django and Node.js for the backend development

PROJECTS

Fraud Detection Tool for NFT Marketplaces

May 2022 – May 2023

- Implemented a **real-time fraud detection tool** for the evolving NFT marketplace leveraging Node.js and Python
- Employed multi-threading techniques alongside AWS RDS, Lambda, and SQS to enhance data processing efficiency
- Built a frontend interface that generates a fraud analysis and d3.js visualizations when traders input desired NFT item

Conference Event Web Application

Jan 2022 – May 2022

- Let the end-to-end development of a comprehensive web application tailored for conference events
- **Orchestrated the architectural design**, implemented responsive user interfaces and robust back-end functionalities using React and Node.js
- Seamlessly integrated critical features, including dashboards, registration pages, and real-time communication tools

Video Colorization with Generative Adversarial Network

Dec 2021 –Feb 2022

- Architected and executed the entire system, employing PyTorch to train and fine-tune GAN models, achieving precise video colorization
- Coordinated real-time video processing integration, optimizing computational efficiency for seamless implementation