

Erik Liu

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EDUCATION

Georgia Institute of Technology; Atlanta, Georgia	
M.S. in Computer Science with specialization in Machine Learning	May 2026
B.S. in Computer Science with concentrations in AI & Information Internetwork	GPA 3.97/4.0 Aug 2020 - May 2024

WORK EXPERIENCE

Software Development Engineer Intern at Amazon Web Services, Inc., Seattle, U.S.	May 2024 – Present
<ul style="list-style-type: none">Spearheaded the development of an account-manage-facing Slack QA App service that resulted in an average of 13.4 hour reduction in question resolution time, by implementing AWS Lambda functions that interface with Slack APIProvided technical account managers automated product-specific QA, by engineering a RAG solution that leverages AWS Kendra for retrieval and Bedrock for generation, achieving 89% accuracy evaluated on existing question/answer pairsStreamlined feature request collection process for PMs by reframing unanswerable Slack question into feature requests with LLM, increasing user engagement in the collection process by 271% from a 7-day observation	
Software Development Engineer Intern at Amazon Web Services, Inc., Seattle, U.S.	Jun 2023 – Aug 2023
<ul style="list-style-type: none">Led the design and development of a scalable microservice that processes global network impacts and notifies impacts to more than 10K corporate customers weekly, resulting in annual cost savings of \$400,000 in manual notificationLeveraged Lambda, DynamoDB, and AWS CDK to improve service scalability, and Quantum Ledger DB to improve securityPartnered with Network Ops team to identify 14 main types of impact patterns that cover 95% of all network impactsAnalyzed system performance bottlenecks and streamlined processes to reduce delay of critical outreach by 16.8 hours	
Software Engineer Intern at Popmenu, Inc., Atlanta, U.S.	May 2022 – Aug 2022
<ul style="list-style-type: none">Engineered a customer-facing chatbot for the front page of over 10,000 restaurants, handling more than 70k chat session per week, by implementing the logic to interact with DialogFlow in the Django-based backendEnabled the service to handle heavy load by leveraging RabbitMQ queues to stream events, achieving <20 ms latency in a load test with 1,000 messages published per secondConnected to frontend through an efficient GraphQL schema, resulting in an additional 4 ms reduction in response latency	
Software Engineer Intern at HUILAN Healthcare Technology Co. Ltd.	May 2021 – Aug 2021
<ul style="list-style-type: none">Developed a dashboard for glucose tracker management using AngularJS, seeing 4,000 monthly active users in a yearImproved site engagement by visualizing medical data with D3.js, reflected in a 40% increase in page views per sessionReduced 20% of front-end codebase by building 23 React components used across platforms	

LEADERSHIP

Head Teaching Assistant of Database Systems, Georgia Institute of Technology	Sep 2023 – Present
<ul style="list-style-type: none">Led the effort to modernize course curriculum to introduce novel database technologies, resulting in a 11% increase in student satisfaction ratings; incorporated SCRUM into three TA teams, raising team engagement in course development	
Conference Organizer, Artificial Intelligence and The Future of Finance Conference	Aug 2023 – Present
<ul style="list-style-type: none">Organized and coordinated an industry-oriented conference with over 500 attendees, managing speaker coordination and event scheduling, resulting in an event well-received by participants and stakeholders	

PROJECTS & PUBLICATIONS

VectorDB Similarity Search with SVM, Georgia Tech Data To Insights Lab	Aug 2023 – Present
<ul style="list-style-type: none">Designs and implements a novel similarity search method that results in a 1.3% recall increase compared to state-of-the-art	
CoCoHD: Congress Committee Hearing Dataset, submitted to EMNLP Conference 2024	Aug 2023 – Jun 2024
Abnormal Trading Detection in the NFT Market (link), accepted by KDD Conference 2023	Aug 2022 – Jun 2023

SKILLS

<ul style="list-style-type: none">Programming languages: Python, Java, C, JavaScript, TypeScript, SQL, HTML, CSSTechnical skills: Cloud Services, REST API, Linux, Node.js, React, Django, PostgreSQL, GraphQL, Pandas, D3.jsOther skills: Retrieval-augmented Generation, NLP, Database Systems, Data Structures, Algorithms, Distributed Systems	
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