

# Michael Zuo

michaelzuoy@gmail.com | (513)-498-9821 | linkedin.com/in/mikey-zuo | github.com/Bimikel

## EDUCATION

<b>Georgia Institute of Technology</b>	Atlanta, GA
<i>B.S./M.S. in Computer Science, B.S. in Mathematics – GPA: 4.0/4.0</i>	May 2027
<ul style="list-style-type: none"><li><b>Relevant Coursework:</b> Data Structures &amp; Algorithms, Operating Systems, Artificial Intelligence, Computer Networking, Databases, Machine Learning, Software Engineering, Computer Architecture, Object-Oriented Design</li><li><b>Awards:</b> 2025 GT Competitive Programming Contest Finalist, AIME 4x Qualifier, USA Physics Olympiad Semifinalist</li></ul>	
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## EXPERIENCE

<b>Amazon</b>	May 2025 – Aug. 2025
<i>Software Development Engineer Intern</i>	Bellevue, WA
<ul style="list-style-type: none"><li>Cut business onboarding time by <b>90% (20 to 2 business days)</b> by building a CI/CD-driven workflow automation system with a self-service form in <b>Java, React, and TypeScript</b></li><li>Automated deployment and integration pipelines with AWS Lambda and DynamoDB, replacing manual email processes with API-based verification</li><li>Enhanced operational visibility across <b>100+</b> business organizations by implementing AWS CloudWatch alerts, reducing incident resolution time by <b>40%</b> and strengthening system reliability</li></ul>	
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<b>Emory School of Medicine</b>	Sep. 2025 – Dec. 2025
<i>Software Engineering Intern</i>	Atlanta, GA
<ul style="list-style-type: none"><li>Developing an offline-capable <b>REDCap</b> data collection system using Service Workers and IndexedDB to enable healthcare staff to record patient data in rural Georgia without reliable internet</li><li>Implementing a client-server architecture with <b>RSA-AES encryption</b> to ensure end-to-end HIPAA compliance, securing sensitive health records during offline storage and synchronized transmission</li></ul>	
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<b>College of Computing at Georgia Tech</b>	Jan. 2025 – Present
<i>Head Teaching Assistant - Algorithms</i>	Atlanta, GA
<ul style="list-style-type: none"><li>Design and publish algorithms assignments and solutions for <b>300+ students</b>, aligning with course learning goals and strengthening understanding of graph theory, dynamic programming, and complexity analysis</li></ul>	

## PROJECTS

<b>Poker Strategy Evaluation Engine</b>   <i>Python, FastAPI</i>
<ul style="list-style-type: none"><li>Built a backend system to evaluate poker hands against over <b>1000</b> simulated opponent ranges per request with <b>sub-200ms</b> response times, exposed with a schema-validated FastAPI service</li><li>Designed a reproducible decision pipeline that computes hand strength and recommendations, validated through unit tests and structured logging to support debuggable analysis</li></ul>
<b>WanderSync Travel App</b>   <i>Java, Android Studio, Firebase</i>
<ul style="list-style-type: none"><li>Built a travel coordination app for <b>over 300 Georgia Tech users</b>, leading a cross-functional developer team</li><li>Shipped over <b>20 features</b>, including vacation planning, ridesharing, and scheduling tools</li><li>Increased backend performance by <b>25%</b> through optimized Firebase data modeling and query design</li></ul>
<b>Spotify Trend Prediction Engine</b>   <i>Python, PyTorch</i>
<ul style="list-style-type: none"><li>Achieved <b>75% forecast accuracy</b> on <b>100k+ Spotify tracks</b> using PyTorch-based ML forecasting models</li><li>Designed a scalable pipeline to process Spotify streaming data, enabling prediction of song popularity and trend shifts</li></ul>

## TECHNICAL SKILLS

<b>Languages:</b> Python, Java, C++, C, JavaScript, TypeScript, SQL, HTML/CSS, XML
<b>Frameworks:</b> React, Next.js, Node.js, Django, Flask, Spring Boot, REST APIs, Nginx, Android Studio
<b>Databases:</b> MySQL, PostgreSQL, MongoDB, Firebase
<b>Cloud &amp; Tools:</b> AWS (Lambda, DynamoDB, CDK, EC2, S3, ECS, CloudWatch), Docker, Linux, Git/GitHub, CI/CD, JUnit, Jest
<b>AI &amp; ML:</b> PyTorch, TensorFlow, Scikit-learn, XGBoost, OpenCV, Machine Learning, Deep Learning