

# Raiyan Zaman

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## EDUCATION

**Georgia Institute of Technology** — Bachelor of Science in Computer Science

May 2028

## EXPERIENCE

### Explore Digits

March 2023 – Present

Software Development Engineer Intern (LLMops / Agent Platform)

- Built a Model Context Protocol (MCP) server/client to bridge LLM tools with internal workflows; containerized with Docker and deployed on AWS ECS/EC2 with RDS (audit-ready logs), IAM least-privilege, and CloudWatch SLO alerts—boosting resilience via autoscaling, RBAC, blue/green deploys, and observability.
- Shipped an admin frontend (Next.js/React) for MCP APIs to create/manage large pediatric survey banks in LimeSurvey (PHP/Yii) for the IRB-approved CHIRP™ child-health study (1,400+ parents since 2018); enforced role-based access and HIPAA-aligned PHI handling with audit logging, accessibility, and compliance.
- Implemented parameterized SQL analytics on PostgreSQL with Matplotlib reporting; right-sizing, query caching, and I/O tuning saved \$50K+ annually (compute/storage) and cut report latency by ~40%.
- Seeded realistic data with Playwright E2E to demo MCP SQL analytics/graphs; validated KPIs in dashboards.

### UMBC ITE

March 2023 – July 2025

Machine Learning Research

- Prototyped FPGA-based Kalman filters and LiDAR/radar pipelines (OpenCV) on RC platforms to harden sensor estimators against cyber-physical attacks, improving robustness in adverse conditions.
- Developed CV/ML applications (face recognition, radar mapping) using Python (TensorFlow); engineered time-series features and trained RNNs that surfaced early illness patterns to inform preventative screening.

## PROJECTS

### Resume Optimizer Generator | AWS, Next.js, REST API, OpenAI, Lambda (Node.js), DynamoDB, S3

- Built a serverless résumé generator (1,000+ outputs) that raised callbacks 20%; ATS keyword matching via LLM/NLP with gap analysis, REST API tailoring, PDF/DOCX render, and CI/CD with usage analytics.
- Automated Lambda + DynamoDB pipelines, cutting manual editing 70%; idempotent retries, schema validation, fault tolerance—boosting productivity, data quality, candidate experience, and time-to-hire at scale.
- Next.js UI with instant previews and responsive design; React Hook Form for safe inputs, a11y/WCAG checks.

### Cloud Job Tracker | React + Vite, Amazon Cognito, API Gateway, Lambda (Python), DynamoDB, S3

- Tracked 200+ applications with 99.9% uptime; mobile-first UI, exports to S3 for sharing.
- Cut API latency 35% via DynamoDB GSIs, caching, TTL cleanup, and cold-start trimming for scalability.

### Adaptive Study Engine | API Gateway, Lambda, Textract, Comprehend, DynamoDB, Next.js, GitHub Actions

- Built an AI study app with SM-2 scheduling, type-safe TypeScript APIs, and RBAC plus signed URLs.
- Orchestrated Textract + Comprehend pipelines generating 10,000+ questions; analytics lifted test scores 15%; async batch jobs for large PDFs; cost-optimized with S3 lifecycle policies and CloudWatch monitoring.

### Spiritual Learning Hub | Next.js, Tailwind, S3, Lambda, API Gateway, DynamoDB, CloudFront

- Scaled interactive tools to 1,000+ monthly visitors on global CDN; i18n-ready routing and basic SEO.
- 99.9% uptime with CloudFront; S3 static hosting and health checks, error-budget/SLO monitoring.

### Social Media Platform | Next.js, TypeScript, Tailwind, Node.js, MongoDB, Redis, Ollama, GitHub/Google OAuth

- Shipped a content hub; tags, filters, and full-text search speed discovery; responsive Next.js UI serves 100+ MAU.
- Stored reels/posts images, videos, podcasts on self-hosted server; LLM-personalized feed and caching.
- Enabled DMs and notifications; real-time presence, typing/read receipts, and machine learning safety moderation.

## TECHNICAL SKILLS

**Languages:** Python, Java, C/C++, C#, Go, TypeScript/JavaScript, SQL

**Frameworks & Tools:** React, Next.js, Node.js, Flask, Spring, Angular/Vue, Docker, Linux, Git, GitHub, CI/CD

**Cloud/DB/ML:** Microsoft Azure; AWS (Lambda, API Gateway, DynamoDB, S3, CloudFront), PostgreSQL, MySQL, MongoDB, Firebase; TensorFlow, PyTorch, scikit-learn, OpenCV; Pandas, NumPy; Plotly

## ACTIVITIES

**Georgia Tech WebDev Club:** Participate in weekly tutorials covering technologies such as Next.js, JSX, and React

**Big Data Big Initiative:** Attend ETL, SQL, statistics, and data visualization workshops; build AI projects.