

# 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.