Syed Hamza Qadri

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Education

Georgia Institute of Technology — Atlanta, GA
Bachelor of Science in Computer Science, GPA: 4.0 — *August 2022 – May 2026*

Experience

Software Engineer Intern – R&D, Platform Engineering — May 2025 – December 2025
Itential — *Atlanta, GA*

- Developed a GitHub Actions workflow integrating Ansible, Terraform, and Amazon EC2 to automate testing for a critical Ansible playbook used by 50+ on-premises customers, reducing test time by 90% and uncovering 3 previously undetected bugs
- Configured an on-premises Kubernetes cluster in Proxmox to deploy the Itential Platform for performance testing, eliminating reliance on Amazon EKS and reducing monthly cloud costs by over $300
- Built an MCP server enabling seamless interaction between LLM clients (e.g. Claude Desktop) and user-defined API triggers, providing configurable tool definitions via UI and reducing integration setup time by 70%
- Parallelized a task execution pipeline by architecting a thread pool of Node.js worker threads, ensuring zero downtime for CPU-bound workflows under stress conditions as well as improved timeout and error handling functionality

Software Engineer Intern – Product — August 2024 – December 2024
Itential — *Atlanta, GA*

- Developed a new module for a Fortune 500 client to publish detailed performance metrics in Prometheus format, with the goal of identifying bottlenecks in the Itential Platform's internal workflow engine
- Decreased task postprocessing time by 30% by reengineering the old metrics collection approach from a push model with MongoDB to a pull model that stores time-based metrics in memory and calculates point-in-time metrics on demand
- Analyzed and wrote documentation for an 11,000+ line legacy codebase to identify five key stages of the workflow execution pipeline, record their execution time, visualize the recorded data using Grafana, and correctly handle edge cases

Software Engineer Intern — May 2024 – June 2024
VentureDive — *Remote*

- Designed and built a web application from scratch using NestJS, PostgreSQL and React to track the allocation of resources to projects and tasks, providing the ability to view transactions in a centralized ledger and visualize them in line and pie charts
- Rewrote a solution to update the UI across all clients in real time, initially built using Firebase Realtime Database, with the WebSocket API, achieving a 40% reduction in response time upon updating records

Projects

FOCUS GA Community Platform | *Next.js, Tailwind CSS, MongoDB, Salesforce SSO*

- Designed and developed a volunteer and community management platform with 4 team members for 501(c)(3) nonprofit organization *FOCUS Georgia*, enhancing communication and moderation for a network of 5,000+ families
- Overhauled backend logic to utilize MongoDB aggregation pipelines as opposed to multiple queries to retrieve and transform related data, reducing time taken in API calls by up to 60% and dramatically improving code readability
- Implemented nested comments and Markdown rendering on individual post pages, improving readability and accessibility

Ostinato: Music Backing Track Generator (HackGT 2023 Winner) | *Python, React, Tailwind CSS, Flask, Google Cloud*

- Built a responsive UI allowing 24 combinations of tempo, mood, and key signature values as well as real-time custom audio playback and visualization using React and Tailwind CSS
- Implemented caching to reduce excessive I/O on backend, resulting in an 80% reduction in music generation time

BuzzCat: Course Catalog Application and Web Scraper | *TypeScript, Python, React, PostgreSQL, Express.js, Firebase*

- Created a course catalog site to allow Georgia Tech students to discover classes through functionality unavailable in the official registration site, including advanced search, inline descriptions, and prerequisite and restriction validation
- Built and optimized a scraper in Python to generate course data from 100,000+ individual URLs using asynchronous I/O, convert it to a tabular structure, and import it into a PostgreSQL database

Skills

Languages: Python, C, C++, Java, Go, Bash, HTML, CSS, JavaScript, TypeScript, SQL
Technologies: React.js, Express.js, Next.js, NestJS, Ansible, Terraform, GitHub Actions, Docker, Kubernetes, Proxmox, Flask, MongoDB, MySQL, PostgreSQL, Amazon Web Services, AWS Lambda, Amazon EC2, Amazon ECR, Google Cloud, Google Compute Engine, Tailwind CSS, Swagger, Git, Linux, Prometheus, Grafana, WebAssembly, Visual Studio Code, Android Studio
Coursework: Data Structures, Algorithms, Operating Systems, Digital Design, Object-Oriented Design, Networks, Machine Learning