Ramy Abdulazziz

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Summary

Backend software engineer building scalable APIs, distributed systems, and automation tools with Go, gRPC, Protocol Buffers, and GCP. Additional experience with Python, Node.js, Docker, Ansible, and AWS.

Education

Stony Brook University May 2024

B.S. Computer Science, minor Electrical Engineering

Skills

Languages:	Go, Java, Python, C, C++, JavaScript, TypeScript, SQL, Bash
Libraries:	React, Node.js, Express, Next.js, Tailwind, Jest, Cypress, Supertest, NumPy, Pandas, PyTorch
Tools:	Git, GCP, gRPC, Protobuf, Docker, Ansible, Terraform, Linux, AWS (EC2, S3), Cursor, Claude
Databases:	MongoDB, PostgreSQL, Mongoose, Supabase, GCP Spanner, Redis

Experience

Optimum | *Software Development Engineer* | *Bethpage, NY* December 2025 - Present

- Worked on the architecture and cross-functional delivery of an a la carte **subscription model** supporting **4M+** customers.
- Engineered scalable **Go, gRPC, and Protobuf** APIs enabling rapid onboarding of major partners like **Netflix and Starz**.
- Architected fault-tolerant billing flows reliably processing thousands of monthly transactions.
- Drove requirements analysis and technical alignment with external partners (**Netflix, Starz, Bango**) during dev cycles.
- Enhanced system observability by building custom **Grafana** dashboards and leveraging tools such as **New Relic**.
- Utilized **GCP** tools (**Spanner**, **Log Explorer**) to triage and resolve key production issues.
- Accelerated engineering delivery and maintainability by increasing **automated test coverage** to $\geq 85\%$ across key APIs.
- Integrated **Cursor** into the development workflow, creating custom skills and MCPs to accelerate engineering delivery.
- Built an automated health check and reporting service, ensuring real-time system monitoring and reliability.
- Implemented **Redis** caching, blocking oversized item pulls and invalidating keys at lifecycle points to keep client data fresh.
- Worked cross functionally with product, business, and internal engineering teams to groom requirements for new features.

Research Foundation for SUNY | *Research Assistant* | *Stony Brook, NY* February 2024 - May 2024

- Co-developed a model for predicting perceived Arabic letter features from demographic data, with **90% accuracy**.
- Created RESTful backend (**Node.js/Express**) and data pipelines for linguistics-based model training.
- Conducted advanced statistical analysis using **Python** and **R** (AIC, log-likelihood, ordinal regression).
- Improved model prediction confidence and interpretability through hyperparameter tuning and validation.
- Integrated **natural language processing** to enhance data analysis, expand linguistic research and dataset usability.

Hewlett Packard Enterprise | *Software Engineering Intern* | *Andover, MA* May 2022 - August 2022

- Built **Python automation** suite for system testing, reducing test cycle time by **45%**.
- Developed real-time and asynchronous logging tools for large-scale SAN firmware diagnostics.
- Created **Ansible** scripts to automate hybrid cloud server deployments across test environments.
- Aggregated and visualized **SAN** performance metrics from **distributed systems** using **pandas** and **matplotlib**.
- Configured advanced Layer 2/3 network features (**VLANs, LACP, MLAG**) on HPE and NVIDIA switches.
- Automated Medusa test data analysis for SAN (**iSCSI/block storage**), detecting read/write corruptions.

Projects

Continuous Individual Crisis Aid Alert System (CICAidA)

- Led **15-person** team building a vitals dashboard used at Stony Brook Hospital enabling **15% faster** triage decisions.
- Designed **RESTful API** with **Node** and **Express** with robust **MongoDB** data schemas for medical context.
- Implemented **Webhook** endpoint that integrated with **MongoDB change streams** and **Websockets** for real-time updates.
- Delivered full testing and deployment automation with **Jest**, **Cypress**, **Supertest**, **GitHub Actions** and **Docker**.
- Followed **agile methodology** and collaborated with hospital staff to validate requirements and refine UX.

Gatherly (Event RSVP Platform)

- Built a full-stack RSVP platform using **Next.js**, **React**, **Tailwind CSS**, and **Shadcn** for responsive design.
- Implemented **magic-link authentication** with **Supabase Auth**, **Twilio SMS**, and **Resend Email** for secure user access.
- Designed **PostgreSQL** schemas and **PL/pgSQL functions** ensuring **ACID-compliant**, idempotent RSVP transactions.
- Enforced **row-level security (RLS)** for group-based permissions and privacy across all Supabase tables.
- Deployed via **Vercel** with custom **DNS**, **Resend subdomains**, and **Twilio webhooks** for two-way SMS communication.