# Mohamed Gomaa

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## Professional Summary

Backend and Cloud Engineer specializing in **cloud-native platforms, infrastructure automation, and developer tools**. Built scalable backend systems and internal platforms that **reduce architecture design time by up to 90%** and **cut cloud costs by 30–50%**. Strong experience with AWS, serverless architectures, and Infrastructure as Code, with a focus on reliability, cost efficiency, and platform engineering.

## Experience

**Founder & Backend / Cloud Engineer — CloudCanvas** 2025 – Present
*Smart Cloud Architecture Design & IaC Automation Platform*

- Built a visual platform enabling engineers to design **AWS, GCP, and Azure** architectures and automatically generate **production-ready IaC**.
- Reduced **architecture design and implementation time by up to 90%** by converting diagrams into **Terraform, Pulumi, and CloudFormation** code.
- Developed a **real-time cloud cost estimation engine** exposing **hidden operational costs** (data transfer, NAT, inter-AZ traffic), reducing unexpected spend by **30–50%**.
- Implemented a **solution marketplace** for reusable, validated architecture templates, accelerating project kick-off for teams and companies.

## Certifications

[AWS Certified Solutions Architect – Associate] Oct 2025
[AWS Certified Cloud Practitioner] Jun 2025

## Education

**Faculty of Science, Assiut University** Oct 2021 – Jun 2025
Bachelor of Computer Science GPA: 3.3 / 4.0 — Assiut, Egypt

## Projects

**Serverless E-Commerce Platform** [GitHub Repo] Sep 2025 – Oct 2025

- Migrated a production e-commerce system from EC2-based microservices to a fully **serverless architecture** using **AWS Lambda, API Gateway, and DynamoDB**, reducing infrastructure costs by **70%**.
- Designed and automated **infrastructure as code** and CI/CD pipelines with **Terraform** and **GitHub Actions**, enabling **blue/green deployments** and reducing manual deployment effort by **90%**.
- Improved API response latency by **45%** through **Redis caching (ElastiCache)** and achieved **zero-downtime deployments**, successfully handling over **5K concurrent requests** using **Go concurrency (goroutines)**, **CloudWatch monitoring**, and AWS scaling mechanisms.
- Implemented **FastAPI (Python)** and **Go (Gin)** backends deployed as containerized Lambda functions, integrated with **RDS Proxy**, **SNS/SQS**, and **AWS Step Functions** to support scalable, event-driven workflows.

**Easy Deploy Platform (Graduation Project)**

- Designed and built a **DevOps automation platform** that deploys GitHub-hosted applications to AWS with **zero manual intervention**, reducing deployment time by **85%**.
- Automated end-to-end infrastructure provisioning and configuration using **Terraform** and **Ansible**, ensuring consistent environments across stages and achieving **99.9% service availability**.
- Implemented **CI/CD pipelines** using **GitHub Webhooks**, **Docker**, **Amazon ECS**, **CodePipeline**, and **CodeBuild** to enable real-time, continuous deployments.
- Integrated **Amazon EFS** as a shared persistent file system to store cloned GitHub repositories, allowing **multiple containers and ECS tasks** to securely access and modify application code concurrently.
- Architected a **secure shared VPC** with segmented **public and private subnets**, applying network isolation.
- Added **observability and monitoring** using **Amazon CloudWatch** (logs, metrics, alarms) to track application health, detect failures, and enable rapid incident response.

## Technical Skills

**Programming:** Python, C#, JavaScript/TypeScript, Go, Bash Script
**Backend:** FastAPI, Django, ASP.NET Core, Node.js (Express.js), Gin
**Databases:** PostgreSQL, MySQL, MongoDB, DynamoDB, Redis
**Cloud :** AWS (EC2, Lambda, ECS, API Gateway, ECR, S3, RDS, CloudFront, CloudWatch, IAM, VPC)
**DevOps:** Linux, Docker, Kubernetes, ArgoCD, Terraform, Ansible, GitHub Actions, Prometheus, Grafana