Mohamed Gomaa

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Professional Summary

Backend Software Engineer with a strong foundation in designing and building scalable systems and robust APIs using FastAPI and .NET Core. Proficient in CI/CD, containerization, and automating cloud deployments with tools such as GitHub Actions, Docker, and AWS. Demonstrated ability to deliver real-world solutions through both collaborative and independent projects, with a commitment to continuous learning in DevOps and cloud technologies.

Education

Faculty of Science, Assiut University   **Oct 2021 - Jun 2025**
Bachelor of Science, Computer Science (Graduated) (GPA: 3.3)   *Egypt | Assiut*

Projects

Easy Deploy Platform | GitHub Repo | *Graduation Project (Computer Science)*   **Mar 2025 - May 2025**
- Built a cloud-based PaaS enabling developers to deploy applications to AWS without DevOps knowledge.
- Automated infrastructure provisioning (95%) via Terraform and CI/CD deployment using GitHub Actions and AWS CodeBuild.
- Reduced deployment time by 80% through one-click automation workflows using FastAPI, MongoDB, Docker, and ECS.

Programmer's Social Hub | GitHub Repo | *Protofolio Project ALX Software Engineering*   **Sep 2024 - Oct 2024**
- Built a microservices-based social media platform for programmers using .NET Core, Next.js, MongoDB, MySQL, Docker, and Kubernetes.
- Features include user authentication, post interactions, User Management, and event-driven architecture for real-time updates.
- Develop a user authentication, event-driven architecture, and both asynchronous and synchronous communications between services using RabbitMQ and gRPC, which reduced the latency by 75%.
- Deploying with Docker and Kubernetes reduces deployment time by 50%, ensuring service scalability and fault tolerance.

School Management System | GitHub Repo | *ALX Software Engineering programme*   **Jul 2024 - Aug 2024**
- Built a full-featured school management system for administrators, teachers, and students.
- Role-based access simplifies administration and reduces repetitive tasks by 85%: admins manage accounts, teachers assign homework, and students track progress and grades.
- It is built using .NET, MySQL, REST API, and Next.js.

Hospital Management System | GitHub Repo | *Assuit University*   **Mar 2024 - Apr 2024**
- Engineered a hospital system allowing patients to book appointments and track treatment history.
- Enabled doctors to manage prescriptions and appointments while enabling admins to oversee hospital operations, reducing administrative tasks by 90%.
- The system is built using .NET, MySQL, Razor Pages, and MVC architecture.

Simple Shell | GitHub Repo | *ALX Software Engineering programme*   **Jun 2023 - Jul 2023**
- Built a Unix-like shell capable of executing commands, managing processes, and handling files.
- Enhancing input parsing, environment variables, signal handling, and secure memory management.

Skills

- **Programming Languages:** JavaScript, Node.js, C#, Python, C, C++, Typescript, Bash Script
- **Backend Development:** FastAPI, .NET Core, Flask, Django, Node.js (Express.js), Microservices, Event-Driven Architecture, API Development: RESTful, OAuth2, RabbitMQ, gRPC, Webhooks, WebSockets, Kong Gateway
- **DevOps & Cloud:** Git & Github, Linux, Docker, Nginx, HAProxy, Kubernetes, Terraform, AWS, Github Actions, CodePipeline, Jenkins, Ansible, Puppet, Prometheus, DataDog, Cloudwatch, ECS, EKS
- **Databases:** SQL, MySQL, MongoDB, Redis, Amazon RDS, DynamoDB, Amazon Aurora

Certifications

- **AWS Certified Cloud Practitioner**: issued: June 29, 2025
  Validated foundational knowledge of AWS Cloud concepts, core services, security, pricing models, and best practices. Demonstrated ability to explain the AWS Cloud value proposition and use cases for cloud infrastructure and services.
- **ALX Software Engineering Program**: ALX Africa | Completed [November, 2024]

Languages

- Arabic (Native)
- English (B1)