

# Mohamed Essam

## FULL-STACK SOFTWARE ENGINEER

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### Summary

ASPIRING FULL-STACK SOFTWARE ENGINEER WITH A STRONG ACADEMIC FOUNDATION IN COMPUTER SCIENCE FROM CAIRO UNIVERSITY AND COMPREHENSIVE HANDS-ON EXPERIENCE THROUGH ALX AFRICA'S INTERNSHIP PROGRAM. PROFICIENT IN MODERN PROGRAMMING LANGUAGES, SYSTEMS ENGINEERING, AND SOFTWARE DEVELOPMENT METHODOLOGIES. SKILLED IN DESIGNING SCALABLE SOLUTIONS, COLLABORATING EFFECTIVELY IN TEAM ENVIRONMENTS, AND DELIVERING HIGH-QUALITY PROJECTS ON TIME.

### Professional Experience

- SOFTWARE ENGINEER INTERN ALX AFRICA / REMOTE (EGYPT) SEPTEMBER 2023 - NOVEMBER 2024 (1 YEAR, 3 MONTHS)
- DEVELOPED EXPERTISE IN C, INCLUDING DATA STRUCTURES (LINKED LISTS, TREES, HASH TABLES), POINTERS, AND MEMORY MANAGEMENT.
  - BUILT PYTHON APPLICATIONS WITH OBJECT-ORIENTED PROGRAMMING, WEB SCRAPING, AND TEST-DRIVEN DEVELOPMENT.
  - DESIGNED RESPONSIVE WEB APPLICATIONS USING HTML, CSS, JAVASCRIPT, FLASK, AND JINJA2.
  - GAINED PROFICIENCY IN SYSTEMS ENGINEERING CONCEPTS LIKE THE OSI MODEL AND TCP/IP.
  - DELIVERED A FULL-STACK AIRBNB PROJECT WITH MYSQL INTEGRATION, UNIT TESTING, AND API DEVELOPMENT.
  - OPTIMIZED BACKEND PROCESSES (PAGINATION, CACHING, USER AUTHENTICATION) AND WORKED WITH REDIS AND NOSQL.
  - IMPLEMENTED SCALABLE DEPLOYMENT PIPELINES USING DEVOPS TOOLS LIKE NGINX, PUPPET, AND MONITORING SOLUTIONS.

### Educational History

BACHELOR'S DEGREE IN COMPUTER SCIENCE  
CAIRO UNIVERSITY  
Expected Graduation: 2026

### Technical Skills

- PROGRAMMING LANGUAGES: PYTHON, C, JAVASCRIPT (ES6, TYPESCRIPT), SHELL SCRIPTING, C++
- FRONTEND DEVELOPMENT: HTML, CSS, JAVASCRIPT, JQUERY
- BACKEND DEVELOPMENT: FLASK, NODE.JS, MYSQL, REDIS, NOSQL
- SYSTEMS & TOOLS: LINUX, GIT/GITHUB, EMACS, MICROSOFT AZURE
- SYSTEMS ENGINEERING: NETWORKING, TCP/IP, OSI MODEL, LOAD BALANCING, WEB SERVERS
- DEVOPS TOOLS: NGINX, GUNICORN, PUPPET, MONITORING TOOLS
- ADDITIONAL SKILLS: UNIT TESTING, API DEVELOPMENT, OBJECT-ORIENTED PROGRAMMING, PROBLEM SOLVING

### Certifications

- AWS ACADEMY GRADUATE:** CLOUD ARCHITECTING, SECURITY FOUNDATIONS, WEB APPLICATION BUILDER, CLOUD FOUNDATIONS (2024)
- ALX SE GRADUATE:** SOFTWARE ENGINEERING PROGRAM (2024)  
<https://intranet.alxswe.com/certificates/MpLGPZJe3B>
- BUSINESS MODEL INNOVATION:** EGYPTINNOVATE (2023)

### Project / Achievements

- AIRBNB CLONE PROJECT:**
- Created a full-stack application with database integration, RESTful APIs, and unit testing.
  - Ensured scalability using DevOps tools like load balancers and monitoring frameworks.
- PORTFOLIO BACKEND SPECIALIZATION PROJECT**
- Implemented advanced backend features such as pagination, caching, queuing, and authentication.

### Soft skills

- TECHNICAL WRITING AND DOCUMENTATION
- TIME MANAGEMENT AND WHITEBOARDING
- COLLABORATION AND TEAMWORK
- PUBLIC SPEAKING AND STANDUPS