

Mohamed Ali

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Experience

Software Engineer, ALX Africa

August 2022 – February 2024

- Gained hands-on experience in security protocols, deepening grasp of software vulnerabilities and defenses
- Enhanced technical writing skills, debugging techniques, and project management abilities
- Streamlined development with Git workflows, Bash scripts, and automated tests (unit/integration)
- Implemented caching algorithms: FIFO, LIFO, LRU, MRU and LFU in Python
- Built Express.js REST APIs with middleware for JWT authentication, authorization, sessions, validation, and error handling
- Implemented custom database logic using SQL scripts, stored procedures, Mongoose middleware, and plugins; enhancing reliability, maintainability and avoiding network traffic
- Improved database performance and scalability through MySQL query optimization and database replication
- Used Redis for data storage/retrieval, facilitating session management, API response caching, and rate limiting
- Leveraged Nginx for web traffic handling and load balancing
- Streamlined deployment and server management tasks using Fabric, improving efficiency and reducing errors
- Worked closely with infrastructure teams, leveraging Datadog for real-time monitoring and issue resolution

Software Developer, Globalize Group

March 2024 – November 2024

- Resolved XSS vulnerabilities to restore Google indexing, boost organic over paid traffic, protect client data, and maximize ROI by eliminating spend on an unindexed site and Implemented SEO strategies
- Optimized DOM rendering by implementing React memoization and virtualized lists for large datasets
- Employed Puppet to automate server management and configure instances, ensuring stability and scalability
- Boosted Django ORM with optimized joins (select_related/prefetch_related), field-level queries control (only/defer), database-side aggregation, bulk operations, strategic queryset caching, indexing, schema redesign
- Integrated multilingual support (i18n) using Django's translation utilities
- Implemented anti-CSRF token validation, strict cookie attributes, and security headers to prevent CSRF attacks
- Designed an activity dashboard, using WebSockets and a pub/sub architecture (Redis) to stream user events
- Redesigned client's Node.js backend to offload CPU-intensive image processing tasks to worker threads with Redis queues and PM2, cutting response times by 60%
- Implemented a multi-layer performance stack for a client, utilizing Zend OPcache, IndexedDB, and Varnish, and integrated GraphQL, reducing payload size by 40%
- Built a Node.js producer-consumer pipeline with RabbitMQ for translation tasks, with secure uploads; implemented validation and batching of text segments to optimize Translation Memory API calls
- Leveraged Webpack code-splitting to separate third-party/route-specific code into content-hashed bundles, lazy-loaded routes, utilized HTTP/2 multiplexing for parallel chunk delivery to mitigate chunking downsides, and configured strategic cache-control headers — reducing TTFB and FCP, and enhancing repeat-visits

Software Developer, scandiweb

November 2024 – February 2025

- Optimized front-end performance via efficient DOM updates through Alpine.js reactive data management
- Developed a cart drawer for the Magento/Hyva theme with real-time price updates, regional tax calculations for NALA/EMEA markets, and an upsell carousel with lazy loading, all fully accessibility compliant
- Built responsive and reactive UI components with Alpine.js and Tailwind, enabling event-driven interactions without page reloads
- Created modular, reusable components following SOLID principles and utilizing dependency injection
- Implemented client-side error handling and loading states, enhancing user experience during cart operations
- Implemented event-driven architecture using custom event listeners and dispatchers to create loosely coupled, maintainable components in the Magento e-commerce platform
- Set up and debugged Magento 2 with Elasticsearch using Docker, integrated with Bitbucket Pipelines for automated CI/CD testing

Education

Bachelor of Software Engineering

Specialization in Back-End Engineering - Holberton School

February 2024

Bachelor of Commerce (Accounting and Finance)

Minor in Business Administration - Beni-Suef University

June 2024

Projects

AirBnB Clones (School Project) | Links: [V1](#) | [V2](#) | [V3](#) | [V4](#)

Description:

An Airbnb clone developed using Flask, SQLAlchemy, MySQL, and various Python libraries. The project replicated Airbnb's functionality with a web interface for browsing, and a console for managing website objects.

Twitterton | Link: [Twitterton](#)

Description:

A Flask web application for scheduling tweets to be posted automatically at a later time and utilizes AI to compose them based on user prompts, it uses Twitter API and OpenAI API.

Certifications

Algorithmic Toolbox	University of California San Diego • 2024
Data Structures	University of California San Diego • 2024
Python programming language - Intermediate level	Microsoft • 2023
Fundamentals of Digital Marketing	Google • 2023
The database development life cycle	The Open University • 2023
Computer Science 50's Understanding Technology	Harvard University • 2022
Web Development	Udacity • 2021

Skills

Programming Languages: Typescript, C, Python, PHP, Bash
Technologies/Frameworks: Chai.js, Mocha, Node.js, Flask, Django, Sass, SQLAlchemy, jinja2, EJS, Nginx, Express.js, Tailwind CSS, AJAX, Fetch API, Magento 2, Docker
Databases: MySQL, PostgreSQL, MongoDB, Redis, Elasticsearch
Software and Tools: Vim, Discord, Slack, Git, GitHub, Trello, Datadog, cPanel, Notion, Jira, Bitbucket, Puppet
Additional Skills: DevOps, Ci/Cd, Test Driven Development, OOP, Database Administration, Shell Scripting, Linux, regex, Server Monitoring, Accounting, Database Schema Design, API Pagination

Trainings

Export Development Bank of Egypt & Bank du Caire & Bank of Egypt	Nov 2021 – Jan 2022
Each bank gave me a unique perspective on the financial and marketing sectors, covering:	
• Trade Finance • Cash Management • Retail Banking Products • Financial Inclusion • Treasury	
• Process Re-engineering • Corporate Banking • Branch Banking • Customer Service • Marketing	
• Project Management • Digital Banking • Financial Literacy and Compliance	