Ahmed Hesham

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Summary

Backend Engineer with a Computer and Systems Engineering background, specializing in building scalable REST APIs and backend services using Java, Spring Boot, and MySQL. Proven experience developing production-style applications with strong emphasis on clean code, database optimization, and containerization. Passionate about building robust backend systems and eager to apply technical skills in a fast-paced team environment.

Education

Faculty of Engineering *July 2024*
Bachelor of Science in Computer and System Engineering Alexandria, Eg

Skills

Languages: Java | Python | SQL | C/C++ | JavaScript
Frameworks: Spring Boot | Flask | Django
Web Development: HTML | CSS | JavaScript | Responsive Design
Build-Tools: Maven
DevOps & Tools: Linux | Docker | Docker Compose | Git | GitHub | Postman
Databases: MySQL | MongoDB | JPA/Hibernate | PostgreSQL (basics)
Concepts: REST APIs | Algorithms | Data Structure | System Design | OOP | Design Patterns | Web Scraping

Featured Projects

SAH URL Shortener | Java, Spring Boot, MySQL, Docker, REST API repo

- Designed the database schema with proper normalization and optimized indexing for high-performance key lookups
- Implemented SHA-256 hashing algorithm with dynamic collision resolution, ensuring unique 8-character keys at scale.
- Designed RESTful API (POST /api/url, GET /api/{key}, DELETE /api/{key}) with proper HTTP status codes and idempotency guarantees.
- Containerized entire stack using Docker Compose (backend, MySQL, frontend) for seamless deployment across environments.
- Implemented JPA repository pattern with optimized database queries.

E-Commerce Platform (Commerce) | Python, Django, JavaScript, HTML/CSS repo

- Engineered a complete full-stack e-commerce application with user authentication, shopping cart, and checkout pipeline.
- Implemented secure user session management with password hashing and CSRF protection across all endpoints.
- Built dynamic product catalog with filtering, search functionality, and order history tracking.
- Designed responsive UI with JavaScript for real-time cart updates and seamless checkout experience.

ML Model Deployment Platform | Python, Flask, scikit-learn, Joblib, Bootstrap, CSV Processing repo

- Developed end-to-end machine learning platform: data ingestion → model training → evaluation → predictions.
- Trained and compared 3 algorithms (Logistic Regression, SVM, KNN) with hyperparameter tuning on HR analytics dataset.
- Built responsive Flask web interface enabling users to select datasets, train models, and view detailed classification reports.
- Persisted trained models using joblib; generated confusion matrices and accuracy metrics for model evaluation.
- Handled 3 dataset variants (normal, oversampled, undersampled) to address class imbalance in predictions.

Hotel Data Scraper | Python, Selenium, BeautifulSoup, Requests, JSON repo

- Automated extraction of 1,000+ hotel listings across multiple cities, processing up to 40 pages per city.
- Leveraged Selenium WebDriver to handle JavaScript-rendered dynamic content and ensure complete data capture.
- Scraped structured hotel data including ratings, amenities, room types, pricing, and images with robust parsing.
- Implemented comprehensive error handling with automatic timeout recovery and retry logic for production stability.
- Exported cleaned data as JSON with full logging for debugging and monitoring; processed 50,000+ data points.

Certifications

Git & GitHub | 356 Data Science *Nov 2024*
SQL – Completion | 356 Data Science *Nov 2024*
SQL (Basics) | HackerRank *May 2024*
Java | HackerRank *Apr 2022*