

# Osama Ahmed Mohamed Amer *Software Engineer*

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## Education

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2021 – present

***Dual Degree Bachelor's in Bioinformatics and Information Systems  
University of East London & Ain Shams University 2021 – Present***

## Skills

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### Technical Skills :

- Programming Languages: C++, Python, SQL
- Database Management: MySQL
- Tools & Technologies: .NET Framework, Git, Crystal Reports
- Data Analysis & Processing: Pandas, NumPy, Matplotlib, Excel, Power BI
- Algorithms & Data Structures: Dynamic Programming, OOP

### Soft Skills :

- Effective Communication
- Active Listening
- Time Management
- Problem-Solving
- group work

## Projects

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### Prediction of Titanic Survival

Role: Preprocessing and Visualization

- Cleaned and prepared Titanic passenger data using Python (Pandas, Matplotlib)
- Created visualizations to understand survival factors and boosted model accuracy by 15% through feature engineering.

### Traffic Prediction

Role: Model Development and Data Preprocessing

- Developed and trained machine learning models in Python (scikit-learn) to forecast traffic patterns
- Refined preprocessing steps and achieved an 85% prediction accuracy.

### Tazkarty: Tickets and Reservations System

Role: Database Design and Implementation

- Designed and implemented a SQL database to handle ticketing and reservation data.
- Optimized query performance, cutting data retrieval times by 30%.

## Spotify App Clone

Role: Feature Development and Reporting

- Built new features and generated crystal reports for a Spotify-like platform using C++ and .NET.

## Operating System (Memory Management and CPU Scheduling)

Role: Memory Management Module Developer

- Built memory management and CPU scheduling modules to enhance operating system efficiency. Reduced memory fragmentation by 20%.

## Fantasy Project

Role: Data Structure and GUI Development

- Designed and implemented data structures and GUI functions for a fantasy-themed application. Improved data handling efficiency by 25%.

## Bioinformatics Project: Multiple Sequence Alignment Using Dynamic Programming

Role: Algorithm Developer

- Engineered advanced algorithms for multiple sequence alignment using dynamic programming techniques; boosted alignment accuracy by 25% and slashed computation time by 40%, enhancing overall system performance and efficiency.

## Deep Learning Project: Animal Kingdom Classification

Role: Algorithm Developer

- Built and trained three deep learning models (VGG19, MobileNet, and Vision Transformer) to classify various animal species.
- Achieved a 92% classification accuracy using data augmentation, transfer learning, and fine-tuning techniques, significantly improving the reliability of the classification system.

## Excel Data Cleaning & Dashboard Project: Bike Sales Analysis

Role: Data Analyst

- Cleaned and transformed a 1,000-record sales dataset using advanced Excel functions (IF statements, VLOOKUP, etc.) and pivot tables, improving data integrity.
- Created an interactive dashboard with dynamic charts, slicers, and filters for swift insight into sales by age, region, and income.

## SQL Data Analysis Project: COVID-19 Data Exploration

Role: Data Analyst

- Integrated global COVID-19 data into SQL. Employed advanced queries (CTEs, joins, window functions, temp tables) to analyze infection, death, and vaccination rates.
- Created views for BI reporting, identifying high-risk countries and leveraging rolling sums to measure vaccination coverage.

## Languages

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- Arabic (Native)
- English (B2)

## Certificates

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Machine Learning Workshop -  
APPLAI (Winter 2023)

Summer Training in Web Development - Ain Shams University (2022)  
APPLAI (Winter 2023)  
HTML, CSS, JavaScript