





# Ahmed Osama Ali

*Data Scientist | ML/AI Enthusiast | Turning Complex Data into Actionable Business Insights*

✉ ahmedosamamath@gmail.com ☎ +201095089573

📍 Mansoura, Dakahlia, Egypt 📅 16th September 2000

🔗 <https://xao.vercel.app>  [linkedin.com/in/zold](https://www.linkedin.com/in/zold)

 [github.com/AhmedOsamaMath](https://github.com/AhmedOsamaMath)  [kaggle.com/ahmedosamamath](https://www.kaggle.com/ahmedosamamath)

## Profile

Data Scientist with a unique blend of self-taught programming expertise and formal geographic information systems education. My journey in technology began as a teenage developer, progressing from basic applications to full-stack web development, eventually discovering my true passion in data science.

With a foundation in both web development and spatial analysis, I bring a distinctive perspective to data science projects. My freelance background has honed my ability to deliver results independently while maintaining clear communication with stakeholders. My experience spans multiple programming languages, including Python, JavaScript, and SQL, complemented by hands-on practice with data analysis libraries and machine learning frameworks.

Driven by an innate curiosity for technology and problem-solving, I continuously expand my expertise through practical projects and self-directed learning. My background in geography and land surveying adds valuable domain knowledge to my technical skill set, particularly in spatial data analysis and visualization.

I thrive on transforming complex datasets into actionable insights and am passionate about leveraging data science to solve real-world challenges. My combination of technical skills, analytical thinking, and practical experience positions me to contribute meaningfully to data-driven decision making.

## Education

October 2024 –  
January 2025

### **Data Scientist Nanodegree, Udacity**

Completed rigorous Udacity Data Scientist Nanodegree program, developing expertise in:

- Software Engineering: Writing clean, modular code and documentation using Python
- Data Engineering: Data ETL, cleaning, and validation utilizing SQL and Python libraries
- Data Analysis: Advanced techniques using NumPy, pandas for exploratory data analysis
- Machine Learning: Supervised and unsupervised learning, model evaluation and validation
- Deep Learning: Neural networks, transfer learning, and deep learning deployment
- Experiment Design: A/B testing, model evaluation metrics, and statistical analysis
- Data Visualization: Creating compelling visual stories using matplotlib and Seaborn

Completed several real-world projects demonstrating mastery of course concepts and practical implementation skills.

August 2024 –  
October 2024

### **Data Science Bootcamp Certificate, Udemy**

Completed intensive data science bootcamp focusing on both theoretical foundations and practical applications. Core competencies developed:

- Statistical Analysis: Advanced statistical methods, hypothesis testing, and probability theory
- Python Programming: Mastery of essential libraries (NumPy, pandas, matplotlib, Seaborn)
- Machine Learning: Implementation using scikit-learn and statsmodels, including regression, classification, and clustering algorithms
- Deep Learning: Neural network development using TensorFlow
- Data Visualization: Advanced techniques using Tableau and Python libraries
- Model Optimization: Hyperparameter tuning, cross-validation, handling overfitting/underfitting
- Business Applications: Applied data science techniques to real-world business problems

Developed end-to-end projects demonstrating practical implementation of learned concepts in real-world scenarios.

April 2024 – August 2024

### **Machine Learning Nanodegree, Udemy**

Completed comprehensive machine learning program covering fundamental and advanced concepts in data science. Coursework included:

- Data Processing & Analysis: Advanced NumPy and Pandas implementations, data preprocessing techniques
- Machine Learning Algorithms: Regression (Linear, Polynomial, SVR, Random Forest), Classification (Logistic Regression, KNN, SVM, Decision Trees)
- Advanced ML Techniques: Clustering (K-Means, Hierarchical), Association Rule Learning (Apriori, Eclat), Reinforcement Learning
- Deep Learning: Neural Networks (ANN, CNN) architecture and implementation
- Natural Language Processing: Bag-of-words modeling and NLP algorithms
- Optimization & Validation: Cross-validation, parameter tuning, Grid Search, XGBoost
- Dimensionality Reduction: PCA, Kernel PCA, LDA

Developed practical skills through hands-on projects implementing various algorithms and models using Python.

2018 – 2022  
Mansoura, Egypt

### **Bachelor of Arts, Mansoura University**

Geography and Land Surveying

### Skills

Python	R Language	Javascript	OOP	MySQL	PostgreSQL	Pandas
Numpy	Matplotlib	Plotly	Seaborn	Power BI	Tableau	Alteryx
Scikit Learn	Scipy	Keras	Tensorflow	PyTorch	Streamlit	Flask
Dash	Apache Spark	Apache Hadoop	Jupyter Notebooks	Docker		

## Professional Experience

April 2024 – present

### **Professional Development, *Career Break***

- Dedicated to acquiring comprehensive skills and knowledge in data science through self-directed learning and hands-on projects. Completed courses and certifications in programming (Python, SQL), machine learning, data analysis, and visualization. Developed practical experience by working on real-world datasets, creating predictive models, and building end-to-end data science projects. Focused on enhancing expertise in statistical analysis, big data technologies, and cloud platforms to be industry-ready for a data science role.
- Actively working on personal projects to apply learned concepts and building a portfolio demonstrating practical data science applications. Completing relevant online certifications through platforms like Udacity and Udemy.

February 2023 –  
March 2024  
Cairo, Egypt

### **Joined the military service, *Career Break***

Completed compulsory military service, demonstrating discipline, adaptability, and teamwork in a structured and challenging environment. Developed valuable skills in leadership, problem-solving, and communication while fulfilling national service obligations.

October 2020 –  
January 2023

### **Web Developer, *Freelancer***

- Designed and developed custom websites and web applications for clients across various industries, ensuring functionality, responsiveness, and user-friendly experiences.
- Collaborated with clients to gather requirements, propose solutions, and deliver high-quality projects within deadlines and budgets.
- Specialized in front-end and back-end development using technologies like HTML, CSS, JavaScript, PHP and Laravel Framework.
- Integrated APIs, optimized websites for performance and SEO, and implemented secure payment gateways.


## Projects

### **Titanic Survival Prediction: End-to-End Machine Learning Classification Project**


Developed a comprehensive machine learning solution for the classic Kaggle Titanic survival prediction challenge, achieving 75.84% accuracy.

**Technologies used:** Python, pandas, scikit-learn, seaborn, matplotlib


**Achievement:** Achieved 75.84% accuracy on the test set, demonstrating strong predictive performance for real-world classification tasks.

**Check it out here:** <https://kaggle.com/code/ahmedosamamath/titanic-survival-prediction> 

### **Wuzzuf Job Market Dataset: A Daily-Updated Insight into the Job Market**

This project focuses on creating a comprehensive and up-to-date dataset of job listings from Wuzzuf.net . The dataset is designed to provide detailed insights into the job market, including job-specific details, company information, and application statistics.


**Results:** The project has produced a dataset with over 8,300+ job listings that offers valuable insights for professionals, researchers, and students interested in exploring the job market.

**Check it out here:** <https://www.kaggle.com/datasets/ahmedosamamath/wuzzuf-dataset> 

## Organisations

### **YouTube Channel,** *Mathematics Teacher*


- Provide free, high-quality mathematics lessons to middle and high school students, focusing on foundational concepts and advanced topics.
- Develop engaging, interactive lesson plans tailored to students' needs and educational standards.
- Utilize various teaching methods, including real-life applications and problem-solving strategies, to enhance understanding and foster a love for mathematics.
- Aim to make education accessible and inspiring for students, contributing to their academic success and confidence in math.

**Check it out here:** <https://www.youtube.com/@AhmedOsamaMath> 

## Publications

### **Linux Basics**

Comprehensive Linux Basics: A complete guide covering foundational Linux concepts, core tasks, and best practices.

**Check it out here:** <https://github.com/AhmedOsamaMath/linux-basics> 

### **Git Basics**

Comprehensive Git Guide: A complete resource covering Git fundamentals, workflows, advanced techniques, and best practices for version control and collaboration.

**Check it out here:** <https://github.com/AhmedOsamaMath/git-basics> 

### **Statistics Basics**

A comprehensive guide to applying statistical techniques in machine learning, including data preprocessing, model development, evaluation metrics, and real-world applications. This repository provides beginner-to-advanced insights into the statistical foundations of machine learning.

**Check it out here:** <https://github.com/AhmedOsamaMath/statistics-basics> 

### **PostgreSQL Basics**

A beginner-friendly guide to PostgreSQL covering installation, basic commands, SQL queries, and database management techniques.

**Check it out here:** <https://github.com/AhmedOsamaMath/postgresql-basics> 

## Languages

**Arabic** — Mother Tongue

**English** — A2

## Interests

Teaching and mentoring students in mathematics | Exploring new advancements in technology |  
Engaging in open-source projects