

# Ahmed Essam Ahmed

## Data Scientist | Machine Learning Engineer

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### PROFILE

Motivated and detail-oriented **Computer Science and Mathematics student** at **Helwan University**, with a strong focus on **Data Science** and **Machine Learning**. Possesses a solid foundation in **mathematics, statistics, and programming**, with hands-on experience in data preprocessing, modeling, and visualization. Passionate about **discovering patterns, building predictive models**, and **extracting actionable insights** from complex datasets to solve real-world problems. Committed to continuous learning and professional growth, with a goal of leveraging **data-driven approaches** to support smarter decision-making and innovation in technology.

### EDUCATION

**Bachelor's degree student in Computer Science & Mathematics, Faculty of Science, Helwan University Cairo | Helwan** 2023 – 2027

### Professional Experience

**Machine Learning Engineering Intern, Elevvo Pathways** 09/2025 – 10/2025

- Gained practical experience building and optimizing end-to-end ML pipelines for real-world projects
- Applied core machine learning techniques including regression, classification, and clustering models
- Performed extensive data preprocessing, feature engineering, and model evaluation using Python (Pandas, NumPy, Scikit-learn)
- Implemented model training and testing workflows, improving performance and interpretability
- Collaborated remotely in a technical environment, enhancing communication and problem-solving skills

**Advanced Data Analytics Intern, National Telecommunication Institute (NTI)** 07/2025 – 08/2025

- Gained hands-on experience in data preprocessing using Python libraries (Pandas, NumPy, Scikit-learn).
- Developed interactive dashboards and reports using Power BI to visualize business insights.
- Applied machine learning models (classification, regression) on real-world datasets.
- Worked on multiple practical projects focusing on data cleaning, feature engineering, and model evaluation.
- Collaborated with peers to present insights and optimize analytical workflows.

### Projects

**Heart Disease Prediction & Analysis, Tools: Python (Pandas, NumPy, Scikit-learn), Power BI**

- Collected and preprocessed medical dataset related to heart disease.
- Performed data cleaning, feature engineering, and exploratory data analysis (EDA) to identify key health risk factors.
- Built an interactive Power BI dashboard to visualize patient data and trends.
- Developed and evaluated machine learning models (e.g., Logistic Regression, Random Forest) to predict likelihood of heart disease.
- Achieved [Random Forest 78%] accuracy in prediction, providing data-driven insights for healthcare analysis.

**Student Score Prediction, Tools: Python (Scikit-learn, Matplotlib, Pandas)**

- Collected and preprocessed a dataset containing students' study hours and participation data.
- Performed data cleaning, exploratory data analysis (EDA), and visualization to understand performance patterns.
- Built and trained regression models to predict students' exam scores based on study behavior.
- Evaluated model performance and identified key factors influencing student success.

### Customer Segmentation, Tools: Python (Scikit-learn , Matplotlib , Pandas , seaborn)

- Collected and prepared a mall customer dataset containing income and spending score attributes.
- Applied **K-Means clustering** to segment customers into distinct groups based on purchasing behavior.
- Performed data visualization and cluster analysis to identify patterns and customer profiles.
- Extracted actionable marketing insights to enhance customer targeting and business strategy.

## COURSES

**Python Programming**

**SQL Programming**

**Object-Oriented Programming (OOP)**

**Data Structures and Algorithms**

**Linear Algebra**

**Probability and Statistics**

**Power BI**

## Certificates

- Advanced Data Analytics – NTI (Summer Training) (Jul 2025 – Aug 2025)
- Machine Learning Engineering Internship – Elevvo Pathways (Sep2025 – Oct2025)
- AI and Machine Learning Foundations – Sprints (2025)

## Skills

### TECHNICAL SKILLS

- **Programming:** Python, SQL
- **Libraries & Frameworks:** Pandas, NumPy, Scikit-learn, Matplotlib, Seaborn, Power BI
- **Machine Learning:** Data Preprocessing, Feature Engineering, Model Evaluation, Regression & Classification
- **Data Analysis & Visualization:** Power BI, Excel, Matplotlib, Seaborn
- **Tools & Platforms:** Jupyter Notebook, Google Colab, GitHub, VS Code

### SOFT SKILLS

- Problem-Solving & Analytical Thinking
- Communication & Team Collaboration
- Time Management
- Adaptability & Continuous Learning
- Attention to Detail

## Languages

### Arabic

Native Language

### English

Proficient in technical and industry-specific terminology