Shahd Mohamed Mahmoud

Data Analyst
Data Science Enthusiast

6th of October City, Giza Governorate
shahdhamzawy2@gmail.com
01127606562
LinkedIn: Shahd Hamzawy
GPA: 3.2

Summary

A highly motivated and results-oriented Data Science student with a strong foundation in programming, statistical analysis, and machine learning. Adept at working with large datasets, cleaning and transforming data, and applying advanced techniques to extract meaningful insights. Proficient in Python, R, and SQL, with hands-on experience in using popular data science libraries such as Pandas, NumPy, and Scikit-learn for data manipulation, analysis, and modeling. Well-versed in data visualization tools like Matplotlib, Seaborn, and Tableau to present findings effectively.

With a deep understanding of machine learning algorithms and their applications in solving real-world problems, I am capable of building predictive models, conducting hypothesis testing, and performing feature engineering. I have a keen interest in artificial intelligence and its impact on various industries, which I have explored through training programs and real-world projects. Additionally, I possess excellent communication skills, enabling me to present complex data-driven insights to both technical and non-technical audiences.

My experience includes collaborating in team environments, managing projects with a strong focus on quality, and working under pressure to meet deadlines. I am passionate about leveraging data to drive informed decisions and improve organizational outcomes. Eager to contribute my skills and enthusiasm to impactful data-driven projects, while continuing to learn and grow in the dynamic field of Data Science and AI.

Education

Zewail City for Technology and Science
School of Computational Science and Artificial Intelligence
Major: Data Science and Artificial Intelligence
Undergraduate student in DSAI, Zewail City
Graduation Date: 2026

Relevant Coursework

- Fundamentals of Programming and Computer Science using Python
- Data Integration and Visualization
- Database Systems
- Data Acquisition in Data Science
- Probability and Statistics
- Information Retrieval
- Data Governance and Cleansing
- Calculus for Computational Science
- Linear Algebra
- Object-Oriented Programming in C++
- Knowledge Representation and Reasoning
- Data Structures
- Circuits and Electronics
- Discrete Mathematics
- Computer Networks
- Project Management and Economics
- Machine Learning
- Software Engineering

- Statistical Inference
- Linear and Non-Linear Programming
- Artificial Intelligence
- Deep Learning
- Interpretability and Explainability in AI

Technical Skills

- **Programming Languages:** Python, C++
- **Data Analysis Libraries:** Pandas, NumPy, Matplotlib, Seaborn, Plotly
- **Database Management:** SQL, Supabase, SQLite
- **Data Visualization Libraries:** Matplotlib, Seaborn, Dash (Plotly), Tableau, AmCharts
- **Other Relevant Tools:** Excel, Jupyter Notebooks

Projects

Dashboard Project for Global Superstore using Flask, AmCharts, and Tableau

- Developed a dynamic and interactive dashboard for Global Superstore, integrating various data visualization tools.
- Utilized Flask for the backend, AmCharts for interactive charts, and Tableau for visualizing data insights.
- Project documentation available at: Drive Link

Advanced Search Engine (Information Retrieval System)
February 2024 – May 2024

- Designed an Information Retrieval (IR) model with a user interface, applying various IR principles.
- Used Tools: Python, Flask, PyTerrier, Flair, Elmo, BERT, and Gensim.

Sensors Monitoring
February 2024 – May 2024

- Applied data governance principles to monitor and analyze sensor data.
- Used Tools: Faker, Cerberus, and Pandera.

Go-Back-N with UDP Protocol
February 2024 – May 2024

- Developed a packet loss simulation using the Go-Back-N protocol with UDP.
- Used Tools: Python, Matplotlib.

Real Estate Web Application with ADO.NET, HTML, and CSS
October 2023 – January 2024

- Developed a real estate management application, integrating ADO.NET for database connectivity and HTML/CSS for the frontend.
- Implemented features for property listings, search functionality, and database management.

Credit Card Fraud Detection (Machine Learning Project)
January 2024 – Present

- Developed a machine learning model to detect fraudulent credit card transactions in an imbalanced dataset.
- Applied K-Nearest Neighbors (KNN), Logistic Regression, Neural Network (MLPClassifier), Decision Tree, Random Forest, and a Voting Classifier.
- Used techniques like Hyperparameter Tuning, GridSearchCV, and RandomizedSearchCV.

Financial Risk Assessment: Comprehensive Report (Machine Learning Project)

January 2024 – Present

- Built a predictive model for loan approval based on applicants' financial and personal information.
- Used models such as SVR with Linear and RBF Kernel, Random Forest Regressor, and Gradient Boosting Regressor.
- Applied GridSearchCV for hyperparameter tuning to improve model performance.

Diabetes Data Analysis (Statistical Inference Project)
November 2023 – December 2023

- Analyzed a dataset with health indicators to diagnose diabetes in patients.
- Applied statistical analysis to explore relationships between variables such as glucose levels, BMI, and age.
- Presented findings to identify key factors influencing diabetes status.

Autonomous Drone Navigation (AI Project)
November 2023 – December 2023

- Developed a solution for drone navigation within a 3D grid, solving the problem of reaching a goal state while avoiding obstacles.
- Used AI techniques for pathfinding and action selection, employing Q-learning to optimize the drone's movements.

Drone Path Optimization: A Discrete Optimization Approach (Linear and Non-Linear Programming Project)
December 2023 – January 2024

- Proposed an optimization method for drone delivery routes using the Hill Climbing algorithm.
- Focused on optimizing paths under constraints like battery life, weather, and obstacles.

Demonstrated the algorithm's effectiveness in improving drone navigation for logistics systems.

Deep Learning Models

• Applied deep learning techniques to solve classification and computer vision problems using a variety of pre-trained models.
• Worked with models including **ResNet50**, **DenseNet50**, **VGG16**, **VGG19**, and **MobileNetV2** for image classification and feature extraction tasks.
• Utilized transfer learning and fine-tuning to adapt these models to specific datasets and improve accuracy.
• Implemented and trained models using **TensorFlow** and **PyTorch**, optimizing them for performance and interpretability.

Additional Experience

Huawei ICT Academy – Egypt

- **AI Training**: Completed AI training, deepening knowledge in machine learning and deep learning, and gaining practical experience in Huawei's AI solutions.

Zewail City for Technology and Science

- **Work Program in IT**: Currently working in the IT department at Zewail City for Science and Technology, focusing on Power Apps development

Additional Skills

- Communication and Computer skills
- Interpersonal skills
- Leadership
- Problem-solving
- Time Management and Prioritization
- Project Management
- Working Under Pressure
- Learning Agility
- Adaptability