Youssef Hanaie Hussien Ibrahim

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Ain Shams, Cairo, Egypt

Education

- Bachelor's degree in **Operation Research & Decision Support** – Cairo university, junior (3rd year student) **2022-2026**
  - Cumulative GPA: **2.71 (Good)**
- High school degree – Collège De La Salle, El Daher (French school) **July 2022**
  - High school Percentage: **85.6%**

Projects

Portfolio of projects completed independently: https://github.com/youssef6765

- **System Modeling and Simulation project**
  - Simulated a **multi-channel** queue system for a petrol station, analyzing queue lengths, waiting times, and driver behavior using **probabilistic models**
  - Modeled a hospital inventory system with two-level inventory management, **optimizing** stock levels to **minimize** shortages and ensure efficient replenishment
  - Generated **statistical reports and graphs** to evaluate system performance, including idle times, average wait times, and inventory trends
- **High-School Student Performance Prediction (Machine Learning Project)**
  - Developed and trained a Neural Network with three hidden layers (128, 64, 32 neurons) using **ReLU activation** and **Adam optimizer** to predict student math performance
  - Implemented a Support Vector Machine **(SVM)** with a **linear kernel** and optimized regularization parameter (C) for noise reduction and performance prediction
  - Conducted 10-fold cross-validation, evaluating models with metrics like accuracy, precision, recall, and F1score.
- **Optimization using genetic algorithm in food composition**
  - Engineered a **genetic** algorithm to **optimize** food composition
  - Incorporated fuzzy logic to dynamically adjust **mutation** rates in the **genetic** algorithm, improving convergence and solution quality for complex nutritional constraints.

Technical Skills

- **Languages**: Python, C++, SQL, MATLAB, Java**,** JavaScript, HTML,CSS,MySql
- **Frameworks/Libraries:** Pandas, NumPy, SQL Alchemy, PyTorch,Tensorflow
- **Tech:** Linux (Shell Scripting), Git, Microsoft Office, LaTeX
- **Data Analysis/Visualization:** scikit-learn, Geospatial, SciPy,Seaborn,Matplotlib
- **Skills:**Data Modeling,ETL process, Machine Learning, Statistical analysis

Languages

- **English and Arabic:** Fluent in both speaking and writing
- **French:** Limited-working proficiency

Courses

- **"The complete python bootcamp"** **August 2024**
  - Gained skills in web scraping (Beautiful Soup, Selenium), data analysis (Pandas, NumPy, Matplotlib, Scikit-learn)

- Made some programs using **Tkinter** to make **GUI**
- Mastered Python through building 100 real-world projects, including **automation scripts**, **games**, and **data science** applications

- **"MATLAB Onramp"**, MATLAB academy **December 2024**
  - Created variety of functions using loops, equations with different input data types
- **"Optimization Onramp"**, MATLAB academy **May 2025**
  - Define optimization variables, and objective functions to find the best possible solution to a problem, given a set of limitations.
- "**Data Analytics Job Simulation on Forage**", Deloitte Australia **July 2025**
  - Completed a Deloitte job simulation involving data analysis and forensic technology
  - Created a data dashboard using Tableau
  - Used Excel to classify data and draw business conclusions