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## Professional Summary:

Computer Engineering student specializing in Artificial Intelligence and Machine Learning. Currently training in the Microsoft Machine Learning Engineer track (DEPI). Strong foundation in Python, data analysis, and supervised learning, with hands-on experience building intelligent systems and real-world projects.

## Education:

### **B.Sc. in Computers & Artificial Intelligence**

Menoufia National University – Egypt

2023 – Present

Major: Machine Intelligence

## Work Experience:

### **AI & Data Science Trainee – Microsoft ML Engineer Track**

Digital Egypt Pioneers Initiative (DEPI), MCIT – 2025 – Present

- Studying machine learning fundamentals and model development
- Working with Python, Scikit-learn, and data preprocessing techniques
- Applying ML concepts through hands-on labs and practical exercises

# TECHNICAL SKILLS

## Programming:

Python

## Data & ML:

Data Analysis, Machine Learning, Supervised & Unsupervised Learning

## Libraries & Tools:

Pandas, NumPy, Scikit-learn, Plotly, Dash, Matplotlib

Jupyter Notebook, Git & GitHub

## Projects

-  **Rainfall Prediction System & Weather Analytics Dashboard**
  - GitHub: [GitHub Repository](#)
  - Built an end-to-end Machine Learning pipeline to predict rainfall using 145K+ weather records
  - Engineered predictive features (TempDiff, PressureDiff, HumidityDiff, Seasonal Encoding)
  - Compared Logistic Regression (85.2%) vs Random Forest (85.6%) models
  - Selected Random Forest as final model based on evaluation metrics
  - Developed interactive dashboard using Dash & Plotly for real-time data exploration
  - Implemented live rainfall prediction interface inside the dashboard
  - Performed feature importance analysis for model interpretability

## **Smart Firefighting Robot (Arduino-based)**

- Designed and implemented an autonomous firefighting robot using Arduino Uno
- Integrated flame detection sensors for automatic fire recognition
- Developed motor control logic for navigation toward fire sources
- Implemented a water pump system for automated fire extinguishing
- Combined hardware and embedded programming to build a real-world intelligent system.