

# Ahmed Gelwan

Data Scientist

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## EDUCATION

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**Al Azhar University**, Cairo

Sep 2019 – June 2023

*Bachelor of Science in Pure Mathematics and Computer Science*

Grade: Very Good

Activities: Microsoft Students Partner Al Azhar University

## SKILLS

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**Programming:** Python, SQL

**Data Science:** Statistical Analysis, Data Visualization, Machine Learning

**ML Packages:** Scikit-Learn, PyTorch

**Frameworks & Tools:** Flask Framework, Gradio, Streamlit

**Other:** Web Scraping, MS Office, Problem Solving

**Languages:** Arabic (Native), English (B2)

## TECHNICAL PROJECTS

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### Chest X-Ray Image Classification

🐙 GitHub

- Developed a PyTorch CNN to classify chest X-ray images as Normal or COVID-19/Pneumonia, achieving 100% accuracy on small validation (30 images) and test (40 images) sets
- Performed data exploration, preprocessing (resizing, grayscale, normalization), and model training using a public chest X-ray dataset
- Built a Gradio web app for real-time X-ray predictions, enabling users to upload images and receive instant probability outputs

### Medical Insurance Cost Prediction

🐙 GitHub

- Developed ML model predicting insurance costs with 90.29% accuracy using Random Forest
- Built Streamlit web app serving real-time predictions; identified key cost drivers through feature importance
- Reduced prediction error to \$1,974 MAE via hyperparameter optimization and cross-validation

### AutoModeling - Automated Machine Learning Toolkit

🐙 GitHub

- Developed "AutoModeling," a Python package simplifying machine learning workflows
- Automated exploratory data analysis (EDA), regression, and classification tasks
- Streamlined data preprocessing, model building, and evaluation for efficient data science projects

### Iris Clustering & Classification

🐙 GitHub

- Used Pandas and data visualization libraries for statistical analysis
- Used Scikit-Learn for building models for classification and clustering
- Used Flask web framework for building simple interactive web app that uses trained models for making predictions

### Cryptography Web App

🐙 GitHub

- Implemented different cryptography algorithms using Python
- Used Bootstrap for front-end and Flask for back-end

### Scraping Article to CSV File

🐙 GitHub

- Used requests library to connect to the article
- Used BeautifulSoup library to find elements
- Used Pandas to save contents as a CSV file

## CERTIFICATES

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**Mathematics for Machine Learning and Data Science**

*Coursera*

**Applied Data Science Lab**

*WorldQuant University*

**Python for Everybody**

*Coursera*

Database Fundamentals  
Data Analysis Professional Nanodegree Program  
Programming in Python: A Hands-on Introduction  
Learning How To Learn for Youth  
Work Smarter, Not Harder: Time Management

*Maharatech*  
*Udacity*  
*Coursera*  
*Coursera*  
*Coursera*