Youssef Elkhatib

Data Scientist | Web Developer

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A highly motivated and Top-ranked **Computer Science and Artificial Intelligence** student with a robust foundation in **machine learning, deep learning, and software engineering**. Adept at designing end-to-end AI pipelines and building custom model architectures using **Python, Scikit-learn, and TensorFlow**. Passionate about translating complex data into scalable, real-world solutions, with additional expertise in **full-stack web development** and a strong commitment to continuous learning and innovation.

Experience

SBS Student Activity | Web Committee Member *Giza, Egypt | Nov 2025 – Present*

Actively involved in designing, building, and maintaining interactive web projects using modern web technologies.
Represented the student community at major tech industry events, including the Youth Scope event at The Greek Campus, fostering technical collaboration and professional networking.

Route | AI & ML Trainee *Cairo, Egypt | Jul 2025 – Dec 2025*

Engineered end-to-end AI solutions during an intensive diploma, executing the full machine learning lifecycle including data preprocessing, advanced feature engineering, model training, and hyperparameter optimization.
Applied predictive modeling techniques to hands-on, real-world case studies, designing scalable AI architectures to address complex business and societal challenges.

Huawei ICT Academy – Cairo University | AI Trainee *Giza, Egypt | Jul 2025 – Aug 2025*

Completed the Huawei HCIA–AI V3.5 certification program, mastering AI fundamentals, Python programming, neural networks, and MindSpore tools.
Conducted practical labs and projects to design, train, and deploy AI models for real-world problems.

Education

Cairo University | Bachelor of Computer Science *Giza, Egypt | Aug 2023 – Anticipated Graduation: Aug 2027*

Major: AI **|Relevant Coursework:** Data Structures & Algorithms, Artificial Intelligence, Machine Learning, Database Systems, Software Engineering, Autonomous Multiagent Systems, Probability & Statistics, Web development | **Extracurricular Activities:** Member of Cairo Coders Club, participated in FinYology competition 2025 | **Cumulative GPA**: 3.77 / 4.00 **(Ranked 1st in cohort & 1st in my department)**

Technical Skills

Programming Languages: Python, Java, C++
Machine Learning & Deep Learning: Scikit-Learn, XGBoost, LightGBM**,** TensorFlow, Keras, PyTorch, CNNs
Data Analysis & Visualization: Pandas, NumPy, Matplotlib, Seaborn
Data Preprocessing: Feature Engineering, Feature Selection, Scaling, Encoding, Handling Missing Values & Outliers
Deployment & Tools: Streamlit, Django, Git, GitHub, HTML/CSS/JS, Qt Creator
Databases: Relational (Microsoft SQL)

Certificates

- **Machine Learning Specialization – DeepLearning.AI / Coursera, 2026**
- **Recognition of Outstanding Performance (AI & ML Diploma) – Route Academy, 2025**
- **Machine Learning & Deep Learning MasterClass Bootcamp – Sprints, 2026**
- **HCIA-AI V3.5 Course – Huawei ICT Academy, Aug 2025**
- **AI Career Essentials – ALX, Apr 2025**
- **Online Career Directions Program – EFE, Mar 2025**
- **Database Fundamentals – MaharaTech, Feb 2025**
- **Web Development Certifications – MaharaTech(HTML, CSS, Javascript), 2025**
- **Programming Language Certifications – Various (C++, Python, Java), 2024–2025**

Projects

Feb 2026

- **FraudShield – Fraudulent Transaction Detector | Python (LightGBM, XGBoost, imbalanced-learn)**: Designed a production-grade machine learning system to detect credit card fraud with high precision and recall. Implemented an advanced 1:60 sampling ratio using BorderlineSMOTE and RandomUnderSampler to handle extreme data imbalance without flooding the system with false alarms. Built a Stacking Ensemble aggregating Random Forest, XGBoost, and LightGBM via a Logistic Regression meta-learner to maximize the F2-Score.

Jan 2026 - Feb 2026

- **LeafLens – Plant Disease Diagnostics Application | Python (PyTorch, NumPy, Streamlit)**: Developed an advanced computer vision application capable of diagnosing 38 different plant diseases across 14 crop types. Engineered a unique Multi-Model Ensemble allowing users to dynamically switch between a state-of-the-art PyTorch EfficientNet CNN, a custom-built Multi-Layer Perceptron (MLP) built from scratch, and a probabilistic Gaussian Mixture Model (GMM).

Jul 2025

- **OncoVision – Brain Tumor MRI Classifier – Deep Learning Model | Python (TensorFlow/Keras)**: Designed and trained a **custom CNN** to classify brain MRI scans into 4 categories (no tumor, glioma, pituitary, meningioma), achieving **99.3% accuracy**. Applied preprocessing, data augmentation, and model optimization techniques to improve generalization and reliability.

Apr 2025 – Jul 2025

- **Click & Cook – Recipe Finder Website | Django, HTML, CSS, JavaScript, SQLite3**: Developed a **full-stack recipe management platform** with authentication, admin and user roles, and personalized features such as favorites, reviews, and profile editing. Integrated **secure signup/login with email confirmation**, advanced search (by name, ingredient, or mood), and a responsive UI with dark/light mode support.

Sep 2024 – Oct 2024

- **Visual Vortex – GUI-Based Photoshop Alternative | C++ (Qt Creator)**: Built a feature-rich **image editing application** with an intuitive GUI, supporting **27 advanced filters** (color effects, frames, editing tools, misc). Implemented core functionality such as undo/redo, multi-filter stacking, light/dark mode, and image property insights for enhanced user experience.