Asser Mahmoud

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Summary

Senior Communication and Information Engineering student with hands-on experience in building and deploying AI/ML solutions. Strong in real-time applications, model tuning, and cross-functional teamwork. With experience in mentoring and knowledge sharing through machine learning workshops.

Education

Helwan University, BS in Communication and Information Engineering   (Expected Grad: June 2026)
GPA: 3.1
Relevant Coursework: Calculus, Probability, AI, Machine Learning, Database, OOP, Computer vision

Key Projects

Lab Components Detector (TensorFlow, CNN)   Kaggle | HuggingFace
- Collaborated with peers to design and validate the dataset of 500 images, ensuring alignment.
- Fine-tuned MobileNetV2 achieving 97% validation accuracy.
- Developed a real-time detection Gradio app hosted on Hugging Face.

Confusion Detection via Mouse Movement (XGBoost)   GitHub
- Identified and resolved data quality issues in mouse coordinate data and applied feature engineering.
- Compared 3 ML models and DL LSTM; XGBoost achieved 0.99 F2-Score.
- Built a real-time FastAPI ML prediction service controlling data flow from the platform to end users.

Car Price Prediction (TensorFlow, ANN)   Kaggle
- Visualized and Transformed car price data (cleaning, outlier removal, scaling, encoding).
- Iteratively refined the ANN model structure based on outputs and discussions reaching test 0.11 MAE .

AdventureWorks Sales Analysis (SQL, Power BI)   GitHub
- Wrote SQL queries to extract and join sales, product, and customer data based on business letter.
- Created a 4-page Power BI dashboard tracking sales KPIs, revenue trends, and regional performance.
- Designed dynamic filters and visuals to support decision-making for sales and marketing teams.

Extracurricular Activities

ML Technical Volunteer, IEEE-HSB (Oct 2024 – Current)
- Led 10 workshops on machine and deep learning, mentoring over 150 participants in Python, Numpy, Pandas, Matplotlib, and ML/DL basics
- Collaborated with a 9-member organizing team to design presentations, notebooks and challenges

FEHU CPC Member, Helwan Student Club (March 2023 – May 2023)
- Engaged in 6 sessions on data structures and algorithms, collaborating with peers to learn and solve.
- Solved A/B/C level problems on CodeForces.

Competitions
- Modifier 8.0: Led a 3-member team to 3rd place – Vehicle Classification CNN (July 2024)

Courses

- **Supervised Machine Learning**, DeepLearning.ai (Coursera) — *Regression, classification, loss, evaluation*
- **Advanced Learning Algorithms**, DeepLearning.ai (Coursera) — *Neural networks, regularization, optimization methods.*
- **Data Analysis and Business Intelligence**, Techmind — *Excel, SQL, Power BI dashboard development.*
- **Statistics & Probability in Python**, DataCamp — *Descriptive stats, distributions, Joint probabilities.*
- **Intro to PyTorch**, DataCamp — *Neural network training using PyTorch.*

Skills

Languages: Python, C++, SQL
Libraries/Frameworks: TensorFlow, Pandas, NumPy, SciPy, Matplotlib, Seaborn
Tools: Jupyter, Anaconda environments, Power BI, Excel, SQL server, git