

Ahmed Nasser Hemdan

Machine Learning Engineer — AI Engineer

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Summary

Fourth-year Computer Science student specializing in Machine Learning and Artificial Intelligence, with hands-on experience in supervised and unsupervised learning, neural networks, and exploratory data analysis. Strong foundation in mathematics and core computer science, with practical experience in building, training, and evaluating ML models using Python and modern ML libraries.

Education

Bachelor of Computer Science, *Cairo University*

Oct 2022 – Present

Grade: Very Good

Relevant Courses: Machine Learning, Statistics and Probability, Linear Algebra, Calculus, Soft Computing, Algorithms, Data Structures, Discrete Mathematics, Operating Systems, Software Engineering.

Professional Experience

Machine Learning Ambassador

GTC, Sep 2025 – Oct 2025

- Selected among the top candidates from 2,000 applicants to serve as a Machine Learning Ambassador.
- Supported community initiatives by helping peers understand core ML concepts and applications.
- Actively engaged in technical discussions covering core ML topics and data analysis.

iOS Internship

Banque Misr, Aug 2024 – Sep 2024

- Integrated RESTful APIs to enable reliable client-server communication and data-driven application behavior.
- Developed and maintained production-level mobile features within an agile development environment.
- Improved application usability and performance through iterative development and optimization.

Certifications

- **Machine Learning Specialization** – DeepLearning.AI & Stanford University
Completed a hands-on specialization covering supervised and unsupervised learning, neural networks, and ensemble methods with practical implementations.
- **Forward Program – Core Skills Level** – McKinsey & Company
Selective program focused on problem-solving, leadership, and professional communication.

Projects

ML-Workshop – Machine Learning experimentation and evaluation

- Designed and implemented supervised machine learning models from scratch, including linear regression, to understand core learning mechanics and optimization behavior.
- Evaluated model performance using quantitative metrics (MSE, RMSE, R^2) and compared results against scikit-learn implementations to validate correctness and efficiency.
- Performed data preprocessing, train-validation splitting, and visualization to analyze model behavior and bias-variance tradeoffs.
- Structured a scalable experimentation workflow to support future ML extensions.
- **Technologies:** Python, NumPy, Pandas, Matplotlib, Seaborn, scikit-learn, Jupyter Notebook.

NFG-Library – Soft computing and intelligent systems library

- Designed and implemented a modular Java library for soft computing techniques, including Neural Networks, Genetic Algorithms, and Fuzzy Logic, with clean and extensible APIs.
- Applied genetic algorithms to optimization problems such as job scheduling, demonstrating solution search, fitness evaluation, and evolutionary operators.
- Developed fuzzy logic controllers for real-world scenarios (e.g., automatic window-blind control), translating linguistic rules into computational inference systems.
- **Technologies:** Java, Object-Oriented Design, Modular Architecture.

Fandango Ratings Bias EDA (2015) – Exploratory data analysis and statistical investigation

- Conducted exploratory data analysis on movie ratings data to investigate potential rating bias using statistical summaries and comparative analysis.
- Analyzed discrepancies between displayed and calculated rating averages, uncovering systematic inflation patterns in Fandango's 2015 ratings.
- Created clear visualizations to communicate data-driven insights and support analytical conclusions.
- **Technologies:** Python, Pandas, NumPy, Matplotlib, Seaborn, Jupyter Notebook.

Technical Skills

- **Software Engineering Fundamentals:** Object-Oriented Programming, SOLID Principles, Design Patterns
- **Programming Languages:** Python, Java, C++, C
- **ML & Data Libraries:** scikit-learn, NumPy, Pandas, Matplotlib, Seaborn
- **Machine Learning:** Supervised and Unsupervised Learning, Model Training and Evaluation, Feature Engineering, Exploratory Data Analysis (EDA)
- **Databases:** PostgreSQL, MySQL, SQLAlchemy ORM, Alembic
- **Backend:** FastAPI, RESTful APIs, Authentication/Authorization (JWT)
- **Tools:** Git, Linux, Jupyter Notebook

Languages

- Arabic
- English