

# Ahmed Mohamed Sallam

## Machine Learning Engineer

✉ ahmedm.sallamibrahim@gmail.com ☎ +201093854620 🌐 <https://github.com/ahmedm-sallam> 🔗 [www.linkedin.com/in/ahmedm-sallam/](https://www.linkedin.com/in/ahmedm-sallam/)  
📍 10 A Ahmed Sherif Street - Helwan 🇪🇬 Egyptian

### EDUCATION

#### Bachelor of Computer Science

Cairo University - Faculty of Computers and Artificial Intelligence

Sep 2021 – May 2024 | Cairo, Egypt

### PROFESSIONAL EXPERIENCE

#### Orange Digital Center Egypt – Competitive Programmer

Sep 2022 – Oct 2022 | Cairo, Egypt

Experienced Competitive Programming Trainee proficient in algorithmic problem-solving and data structures. Mastered advanced techniques including prefix sums, binary search optimizations, and STL usage (vectors, stacks, queues, maps, etc.). Developed strong skills in number theory, bitwise operations, recursion, and dynamic programming. Experienced in graph traversal algorithms (DFS, BFS) and adept at efficiently solving complex problems.

### PROJECTS

#### Al-Maqraa

Graduation Project

Nov 2023 – May 2024

- Designed and implemented advanced speech recognition models, including QuartzNet and RNN-CTC, to evaluate Quranic recitations, ensuring precise pronunciation feedback for users.
- Engineered and trained a deep learning model to convert Arabic speech into text with accurate diacritics, enhancing the accuracy of Quranic recitation transcription and providing users with detailed phonetic guidance.
- Developed a comprehensive audio preprocessing pipeline involving silence removal, echo noise reduction, and signal pre-emphasis, enhancing the quality of audio inputs for more accurate model predictions.
- Implemented rigorous evaluation techniques, including cross-validation and hyperparameter tuning, to refine model performance, achieving higher accuracy in the detection and correction of recitation errors.
- Deployed ML models and backend services using Microsoft .NET Framework and PostgreSQL on Azure, ensuring scalability, robustness, and secure access to Quranic learning resources globally.

#### Text Classification using RNN and Word Embeddings

Sentiment classification

- Developed a sentiment analysis system using RNN and LSTM models, achieving up to 89% validation accuracy on Amazon reviews.
- Implemented data preprocessing, tokenization, and a GUI application for real-time sentiment prediction.
- Optimized models using the Adam optimizer and cross-entropy loss, visualizing training and validation trends for performance evaluation.

#### Spam Email Detection

- Developed a spam email classifier using Logistic Regression and Random Forest models with various text preprocessing techniques and embeddings like Count Vectorizer, TF-IDF, Word2Vec, and BERT.
- Assessed models based on accuracy, precision, recall, and F1 score, optimizing hyperparameters for each approach.
- Achieved high accuracy and precision across models, with the BERT-based Logistic Regression model reaching 98.71% accuracy and high F1 scores.

### Skills

**Concepts:** Algorithm, OOP, SOLID Principles, Design Patterns, High Performance Computing, Version Control, Cloud Computing, Containerize, Virtualization

**Programming Languages:** C/C++, Java, Python, HTML, CSS

**Database:** PostgreSQL, MySQL, Microsoft SQL Server

**Web Framework:** Flask, Spring Boot

**ML Frameworks & Libraries:** NumPy, Pandas, Matplotlib, Seaborn, Scikit-learn, PyTorch, TensorFlow, NLTK, SpaCy, Gensim, Transformers

**Tools:** Git, GitHub, Docker, MPI, OpenMP

**Soft Skills:** Teamwork, Leadership, Time management

### ORGANIZATIONS

#### Children's Cancer Hospital Egypt 57357 (CCHE)

Volunteer

Nov 2022 – present | Cairo, Egypt

- Provide psychological support to children with cancer and their families at CCHE 57357 through recreational activities and supportive talks.
- Assist the Volunteers department with administrative, religious, and educational tasks to enhance hospital efficiency.
- Conduct introductory tours for hospital guests, educating them about the facility and treatment programs while encouraging donations of cash, blood, or emotional support.
- Organize events such as conferences and parties, ensuring successful planning and execution.

### LANGUAGES

- ♦ Arabic
- ♦ English