Yousef M. Eldaly

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EDUCATION

Cairo University Giza, Egypt
Bachelor of Computer Science and Artificial Intelligence Sept. 2021 – July 2025
CGPA: 3.53

PROJECTS

Automatic Speech Recognition (Python, Pytorch, Conformer, Nvidia NEMO toolkit)
Repo: https://github.com/YousefEldaly/MTC-AIC-ASR-competition

- Developed and trained three ASR models (CTC-Conformer, Transducer-Conformer, and Hybrid-CTC-Transducer-Conformer) from scratch, targeting low WER on Egyptian dialect data. Experimented with model configurations, encoder/decoder structures, learning rates, scheduling algorithms, and SpecAugment on a 100-hour dataset with clean and noisy audio, aiming for WER under 10–12% within 50 epochs. Achieved a WER of 13.2% on the CTC model and 26.17% on a Jasper model.

Speaker Diarization Pipeline (Python, Pytorch, Conformer, Embeddings , VAD, Nvidia NEMO toolkit)
Repo: https://github.com/YousefEldaly/MTC-AIC-ASR-Competition-phase2

- Developed a speaker diarization and ASR pipeline for Egyptian Arabic, integrating VAD, TitaNet for speaker embeddings, MSDD, clustering, and Conformer-CTC for ASR, achieving a 20% Diarization Error Rate (DER).

Tennis Players, Ball and Court Detection System for Videos (Python, Pytorch, YOLO, ResNet, Ultralytics)
Repo: https://github.com/YousefEldaly/Tennis-Players-Court-Detection/tree/main?tab=readme-ov-file

- Developed a deep learning detection system for tennis players, balls, and court key points using YOLOv8, a custom-trained YOLOv11, and a fine-tuned ResNet50. Added post-processing to filter players and interpolate missing detections, enhancing accuracy and robustness.

Design Patterns Implementation Repo (Java)
Repo: https://github.com/YousefEldaly/java-design-patterns

- Implemented key design patterns from *Headfirst Design Patterns* and Refactoring Guru (e.g., Adapter, Command, Factory, Observer, Singleton) and created a reference repository with detailed code and UMLs to support easy revision and understanding.

Food Recipe Android App (Java, Android, RESTful APIs)
Repo: https://github.com/YousefEldaly/Food-Recipe

- Developed a native Android application using Java, integrating RESTful APIs to handle dynamic data, including features for recipe search, ingredients info retrieval, and recommendations.

COURSEWORK PROJECTS

InstaPay Billing & Notifications system (Java, Spring, SQL) - Advanced Software Engineering (CS 352)

Repo: https://github.com/YousefEldaly/Instapay-System

- Produced comprehensive Software Requirements Specification and Design documents, including Use Case, UML, Architecture, State, and Sequence Diagrams, and designed and implemented a billing system using Java, Spring Boot, and SQL, testing it with Postman for functionality and reliability.

Data Structures Library (C++) - Data Structures (CS 214 & CS 316)
Repo: https://github.com/YousefEldaly/Data-Structures

- Implemented various data structures, including linked lists (singly, doubly, circular), stacks, queues, and advanced tree structures such as suffix trees, red-black trees, B-trees, AVL trees, and min-max heaps.

LEADERSHIP, ACTIVITIES, and AWARDS

Top 8 Finalist, The International Competition of the Military Technical College in AI July 2024

- Led a team to achieve a top 8 finish out of 150+ teams by developing an ASR model for Arabic Egyptian Dialect in the Kaggle phase and a Speaker Diarization pipeline in the Contest phase.

Digital Egypt Pioneers Generative AI course Scholarship June 2024 – Oct. 2024

- 1 of ~ 400 scholarship recipients selected from over 25,000 applicants on a merit basis. The course covered Machine Learning fundamentals, Intro to Deep Learning, and Generative AI, with a focus on neural networks and advanced algorithms.

Stanford University | DeepLearning.ai Specializations May 2024 – Nov. 2024
Machine Learning Specialization Courses (Online)
Deep Learning Specialization Courses (Online)

- Completed a series of 8 courses covering: Logistic Regression, Artificial Neural Networks, Linear Regression, Decision Trees, Recommender Systems, CNN, RNN, and Sequence Models.

IEEE FCI Helwan University Student Branch Dec. 2021 – Dec. 2022
Data Analysis Director

- Planned and led data analysis workshops and initiatives, enhancing members' skills and engagement.
- Conducted a 5-month training for 8 members and a 5-hour workshop at TechVerse IEEE-FCIH for 20 participants using a greenhouse vehicle dataset.
- Recognized as Best Director of the Third Quarter for leadership and contributions.

Third Place out of 40+ teams, ManuTech Challenge Competition | USAID, DAI, Egyptian CIT Feb. 2024

- Led a team to design and develop a mobile app concept to optimize warehousing for 10 LEONI Group factories in Egypt, showcased at the Annual International Industry Forum inaugurated by President Abdel Fattah El-Sisi.
- Selected for the Advisory Committee of the ManuTech Challenge, collaborating with industry leaders and investors to shape future initiatives.

SKILLS & INTERESTS

Technical skills: Java, Python, C++, Machine Learning & Data Manipulation: Pytorch, Scikit-learn, Keras, Pandas, Numpy, MatPlotlib**,** Database/Cloud: SQL, Azure.**,** Git, Jupyter Notebooks, Docker, Google Colab, Linux, Microsoft Office.

Languages: Arabic (Native), English (Fluent), German (Beginner).

Interests: Pigeon Keeping, Education, Soccer, Volleyball, News Watching.