Diana Rehan *Computer Engineer*

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EDUCATION

German University in Cairo, *B.Sc. in Computer Science*   2021 − 2026
Thesis: *"Adaptive Adversary Generation in Games using LLMs"* (Grade: A+) April 2025.

PROFESSIONAL EXPERIENCE

Data Science Research Fellow, *GIU* 🔗   07/2025 − 08/2025
Developed a **Convolutional Neural Network (CNN),** using TensorFlow, Keras, Pandas and Scikit-   Berlin, Germany
learn to predict Big Five personality traits from a 30k+ facial image dataset, achieving 76% accuracy,
validated by live user testing.

Freelance VR Developer, *MIU* 🔗   08/2025 − Present
Developed a virtual reality application for dentistry students, implemented realistic **tooth extraction**   Remote, Egypt
mechanics using physics-based interactions and haptic feedback for training purposes., Integrated
tooth anatomy models to support learning of dental structures.

Freelance VR Developer, *Immerza* 🔗   05/2025
Designed immersive Virtual Reality Exposure Therapy (VRET) environments, targeting acrophobia (fear   Remote, Germany
of heights) where I developed a **high-altitude scene,** and for treating arachnophobia (fear of spiders)
where I creating a spider interaction scene for treating **patients**.

VR Developer, *ITQAN for smart solutions* 🔗   07/2024 − 05/2025
Developed an offline **multiplayer VR educational lab** for training Pilots using **Unity NGO** networking   Cairo, Egypt
library.

PROJECTS

FPS Survival Game with DDA, *Unity, C# and Deepseek LLM* 🔗
Developed a first-person survival shooter game where players fight off enemies. The game features a **dynamic difficulty**
adjustment (DDA) system that modifies enemy behavior and difficulty in real-time, with the help of an LLM that analyzes player
performance and make adaptive gameplay decisions.

Facial Biometric Personality Profiling, *React.js, Python (Flask), TensorFlow (Keras), CNN*
Developed a full-stack AI application to predict "Big Five" personality traits using a custom CNN during an intensive workshop in
Berlin. Successfully validated the system through live user testing with international attendees.

Tripal Travel Agency, *MERN* 🔗
A Full-Stack website that **simplifies the travel experience** by providing tourists with a platform to Book Activities, Hotels and
flights tailored to their preferences, explore historical places with detailed insights and recommendations, shop for unique
souvenirs and more.

Waslet Kheir - NGO website, *React.js, JSX, CSS* 🔗
Front end website that offers **a donation platform** for different stakeholders, delivering an exceptional user experience.

Airline Customer Satisfaction System, *Python, Neo4j (Cypher), ML (XAI), VADER Sentiment Analysis, GraphRAG*
Built a model to predict passenger satisfaction using customer reviews and sentiment analysis. Developed a Neo4j Knowledge
Graph to link flights and feedback, enabling complex data queries to explain travel trends.

Multiplayer VR Pilot Training Lab, *Unity, C#, Unity Netcode for game objects*
Built a multiplayer virtual reality environment for pilot training with realistic aircraft simulations.

VR Dental Surgery Simulator, *Unity VR, C#*
Designed a realistic 3D proof-of-concept for dental training. Enabled dentists to practice complex procedures, such as tooth
extractions, within an immersive virtual environment.

Multi-Robot Search & Rescue Simulator, *Python, Genetic Algorithms (GA), Particle Swarm Optimization (PSO)*
Developed a simulation for a team of autonomous robots to efficiently map disaster zones using advanced optimization algorithms.

EXTRACURRICULAR ACTIVITIES

VGS Club, *Vector Game Studio*   2022 − present
Logistics member, a game developer and a music producer.

Competitive Programmer, *ECPC*   2023 − 2024
Participated in a competitive programming contest for solving problems under timed conditions.