Mohamed Ahmed Rabea

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PROFILE

Junior Unity Developer with a Computer Engineering degree and a strong background in programming and AI. Skilled in C#, Unity, Object-Oriented Programming, and VR tools, with hands-on experience in game development and immersive projects. Actively contributing to real-world projects by designing gameplay features, collaborating with cross-functional teams, and setting up tasks to support smooth development workflows. Motivated to grow as a developer while bringing creative ideas into engaging player experiences.

EDUCATION

Benha University | Cairo, Egypt ***September 2020 – June 2025***
Shoubra faculty of engineering
Key Modules: programming, Maths & statistics, Databases, AI, python, C++, OOP, C#, Graphics.
Grade**:** outstanding marks during my five years with an A Grade.

EXPERIENCE

Genesis Creations **July 2025 – Present**
Unity Developer

- Developed VR experiences and interactive games using Unity.
- Built gameplay systems and implemented modern tools and packages to enhance functionality.
- Optimized performance and memory usage to improve player experience across platforms.
- Collaborated with teammates from different disciplines to ensure smooth development of workflows.
- Organized and assigned tasks using Click Up to support project management and team productivity.

Technovate, IEEE, and A-One Training Center **September 2024 – February 2025**
AI Instructor

- Taught foundational and advanced AI concepts to engineering and computer science students.
- Designed and delivered **hands-on workshops** using Python, TensorFlow, and real-world datasets.
- Created structured learning paths covering algorithms, neural networks, and model evaluation.
- Guided students through building **projects**, including image classification, NLP, and data pipelines.
- Simplified complex AI concepts into **beginner-friendly sessions** for mixed-level audiences.
- Mentored students on academic and career development in AI and software engineering.
- Coordinated and taught sessions for **IEEE AI Bootcamp** with 60+ participants.

PROJECTS

VRC **July 2025 – *Present***
A VR Project

- Developed an interactive VR environment using **Unity, C#, and Oculus frameworks.**
- Built modular gameplay systems (Cleaning system, interaction handlers, objective tracking).
- Implemented **player movement, hand tracking, and object interaction** using Oculus Integration.
- optimized physics-**based interactions, and UI systems** for VR performance constraints.
- Integrated **event-driven systems and scriptable objects** to enhance scalability and maintainability.
- Optimized scene performance through **baked lighting, asset management**, and profiling tools.

DXB ***July 2025 – Present***

A VR and PC Project

- Developed an interactive **digital twin of Dubai International Airport** using Unity and C#, enabling real-time visualization of airport operations.
- Implemented **accurate object behaviours, and system logic** reflecting real airport processes (gates, vehicles, Racks).
- Built modular systems for **navigation, state management, and dynamic data visualization**.
- Optimized large-scale airport scenes through **LOD systems, light baking, occlusion culling.**
- Collaborated on **integration with operational data** to simulate realistic airport scenarios.
- Ensured high performance and stability for complex environments with thousands of active objects.

Explainable AI for Medical Diagnosis from Radiographs ***September 2024 – June 2025***

Graduation XAI Project

- **Developed an end-to-end Explainable AI (XAI) diagnostic system** for classifying diseases from (CXR).
- Engineered a high-performance DL solution based on the **(ViT-Base-R50-S16-224)** architecture.
- Achieved robust test performance on the NIH ChestX-ray14 dataset.
- Implemented a lightweight fine-tuning strategy to optimize generalization and reduce overfitting.
- Pioneered a **pathology-specific XAI approach**: utilized **SHAP**, **Attention Rollout, GradCAM++.**
- Created a **thorax-Extraction preprocessing pipeline using OpenCV** to isolate lung regions.
- Deployed the full system as an interactive, user-friendly **web-based platform (FastAPI).**

Snake Game ***August 2024 – September 2024***

A Game Project

- Designed and a classic Snake Game using P3, focusing on smooth gameplay mechanics and responsive controls.

Kitchen Chaos ***September 2024 – October 2024***

A Game Project

- Made a 3d cooking Game (Overcooked style) using unity with Well-Designed Generic OOP Code.

AI Chess Game ***December 2022 – January 2023***

A Game Project

- Made a Chess Game Using Java GUI libraries and Well-Designed Generic OOP Code.
- Implemented an AI algorithm so that the player can play against the AI.

Responsive restaurant website ***May 2022 – June 2022***

A website Project

- Made a responsive website for a fancy Restaurant using HTML, SCSS, JavaScript.

Technical SKILLS

- **Languages:** Arabic (*Native*), English (*Fluent*), German (Beginner)
- **Engine:** Unity (2D, 3D).
- **OOP:** familiarity with Design Patterns, writing Good clean code in C#.
- **Programming:** C#, Python, Java and Problem-solving skills using C++, OpenGL.
- **AI:** Machine learning, Deep learning, Data Preparation.
- **Mathematics & Physics:** Linear Algebra, Trigonometry, Kinematics.
- **2D Art:** Photoshop and Illustrator.
- **3D Modelling:** familiarity with Blender.
- **Audio:** Familiarity with Audacity.
- **Web Development:** HTML, CSS, SASS, JavaScript, React, SQL and Database Concepts.
- **Tools:** Git, Fork, Figma, Click Up, Postman.
- **Platforms:** PC, VR.

Activities

- Attended gaming events (ITI Game Day, Arabic Games Conference, etc)