Karim Abdel Hamid

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Work Experience

Game Development Team Leader at **Nahdet Misr AI** *(Sep 2021 – Present)*
- Developed Rehlatie, the 2nd highest-ranking educational app in Google Play's Egypt store, using Unity.
- Managed the Game Development team.
- Taught my team valuable skills, including modern Unity features and modern programming practices.
- Developed several Requirement Specifications for features.
- Designed an upcoming feature to massively expand gameplay and increase player expression.
- Consulted with clients, gathered requirements, and facilitated communication between all teams.
- Programmed Android Plugins to utilize WebView and other features not available directly in Unity.

Game Programmer at **Mirqah Media Lab** *(Sep 2020 – Sep 2021)*
- Developed a business-to-business education videogame that teaches management concepts.
- Programmed the main application using React, and the backend using Rails hosted on AWS.
- Used Test Driven Development (TDD) to ensure 100% test coverage for new modules.
- Maintained outdated code and improved style guides.

Senior Front-End Developer at **Trukto** *(Jun 2018 – Oct 2018)*
- Developed user interface designs for web and mobile.
- Managed the front-end development team.
- Programmed and designed a React-based web Interface for client and dashboard integrated with AWS-hosted microservices.

Education

The American University in Cairo *(Feb 2015 – May 2020)*
- Bachelor of Science, Computer Engineering, Cum Laude

Personal Project Experience

Programmer / Designer on **Yugen** *(Aug 2022 – Present)*
- Developed a First-Person Horror game inspired by *Resident Evil* using the *Unity* Game Engine.
- Designed game mechanics, user interface, and lore.
- Programmed post-processing effects, inventory system, save system, artificial intelligence, player movement, and more.

Programmer / Designer on **The Grindstone Engine** *(2014 – Present)*
- Developed and designed my custom game engine.
- Modular plugin-based cross-platform (Windows + Linux) game engine.
- Modern material-based renderer with PBR, image-based lighting, and post-processing.
- User-friendly GUI-based editor tools.

Activities

Game Development Workshop Instructor at the **American University in Cairo** *(Spring 2016, Fall 2016, Jan 2020)*
Game development course requested many times by the Computer Science Association and the chair of the department, Dr. Sherif Aly.
- Designed curricula and presentations for classes of 10-40 students in each class.
- Taught a game development workshop that includes graphics, programming, level design, modeling, texturing, and game design with both Unreal Engine and Unity Engine.
- Taught a web development workshop that includes HTML, CSS, and JavaScript.

Skills

Programming Languages: C++, C#, Unreal Blueprint, GLSL, HLSL, ShaderGraph, SQL, Flutter, JavaScript, HTML, CSS, PHP, Lua, Python, Rust, WebGL
Game Engines: Unity, Unreal, Source, GoldSrc, CryEngine, Grindstone (My game engine)
Computer Graphics: OpenGL, Vulkan, Physically Based Rendering, Post-Processing, Deferred Lighting
Game Development: Blackboard and FSM-based Artificial Intelligence, Player Movement, Weapon Programming, Gameplay Systems, Dialogue Systems, Complex User Interfaces, Player Input, and more
Engine Development: Entity Component Systems, Compressing Graphics related files, Material Systems, Reflection, Plugin Systems, C#-Based Scripting, Graph-Based Scripting
Databases: MariaDB, MySQL, PostgreSQL
Additional Software: Microsoft Office (Word, Excel, PowerPoint, Access, Visio, Outlook), Git, Jira, Trello, ClickUp, Visual Studio, Visual Studio Code, Draw.io, Android Studio, AWS
Relevant Libraries: Win32, X-Org, MFC, Imgui, Mono