

Karim Abdel Hamid

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Work Experience

Software Engineer at Iron Galaxy Studios (Sep 2023 – Present)

- Ported Call of Duty: Black Ops I, II and III to the Microsoft Store.
 - Ported from C++03 to modern C++17, from x86 to x64, and Visual Studio 2005 to 2019.
 - Introduced the Microsoft Game Developer Kit (GDK).
 - Fixed issues in performance-intensive assembly code, memory allocator issues, and bugs related to pointer size changes in a multi-threaded codebase.
 - Created automated builds and continuous deployment (CD) to drastically improve productivity of the team, catching errors and allowing rapid deployment.
- Led a team of new developers to learn the Unreal Engine using C++, and prototype a VR project.

Game Development Team Leader at Nahdet Misr AI (Sep 2021 – Sep 2023)

- Developed the second-highest ranking educational app in Egypt: a game using the Unity game engine.
- Published the app on both the Apple store and the Google Play Store.
- Led team of four members, teaching valuable skills, such as Unity's UI Toolkit and the new Input System, and modern programming practices, to remain on the cutting edge of Unity development.
- Consulted with clients, gathered requirements, and facilitated communication between all teams.

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- Maintained outdated code, and improved style guides.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 an app where users can order a truck, and logistics companies can manage their trucks.
- Managed the front-end development team.
- Programmed and designed React-based web Interface for client and dashboard integrated with AWS-hosted microservices.
- Gathered requirements from all important parties, designed user interface and user experience for desktop web and Android/iOS platforms.
- Managed a team of two frontend developers - a junior developer and an intern.

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)

- Developing a First-Person Horror game inspired by *Resident Evil* using the *Unity* Game Engine.

- Designing game mechanics, user interface, level design, and story.
- Programming post-processing effects, inventory system, save system, artificial intelligence, player movement, a complex room safety system, and more.

Programmer / Designer on **The Grindstone Engine (2014 – Present)**

- Developing and designed my custom game engine.
- Architected modular plugin-based cross-platform (Windows + Linux) game engine.
- Built modern material-based renderer with PBR, image-based lighting, and post-processing using Vulkan and previously OpenGL.
- Developed User-friendly GUI-based editor tools for building scenes and importing models, textures, and other assets in optimized resource pipeline.

Activities

Workshop Instructor at the **American University in Cairo (Spring 2016, Fall 2016, Jan 2020)**

Game development course requested many times by 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, JS.

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, DirectX, 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