

# Mohammad Saad *Game Programmer*

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## PROFILE

Proficient game developer with over 3 years of professional experience in **Unreal Engine** and **online multiplayer gameplay programming**. Driven by a passion for game development and a commitment to continuous learning. Proven ability to design, implement, and optimize complex game features using **object-oriented principles** within the Unreal Engine framework. Experience with code refactoring, building reusable components, and leveraging Unreal engine features like **network replication**, **C++ reflection system**, **gameplay framework**, **GAS**, **UMG**, **AI**, **Sequencer** and other **blueprint tools**. Familiar with Unity Engine, CI/CD workflows, node-based shaders, and basic OpenGL concepts.

## PROFESSIONAL EXPERIENCE

### 1336 Studios (Apex, NC, US), Game Programmer

Jul 2021 – Jul 2024 | Fully Remote, Egypt

At 1336 Studios, I worked on [Gridiron](#), a fast-paced online multiplayer arcade style American Football Game made using Unreal Engine.

Key Achievements:

- **Bots & Matchmaking:** Led and executed the entire development process from initial design to final implementation of the AI module. Bot players were built using Unreal **Behavior Trees** (UBT) and the **Gameplay Ability System (GAS)** in C++. Integration of AI bots into custom lobbies and matchmaking systems using Amazon GameLift resulted in a 30% increase in player retention rate, and enhancing player engagement while ensuring optimal backfill options.
- **Player Celebration System:** Launched a replicated dynamic system using **Unreal Sequencer** to trigger player animations and cinematics upon scoring a touchdown resulting in improved user satisfaction as measured by feedback from players.
- **Enhanced Game Audio:** Developed a networked reusable, scalable and highly customizable system that can be used in different levels independently to control global game audio settings. Using Unreal Audio Components. The system efficiently automates and optimizes audio asset handling processes empowering artists to focus on creative productions.
- **Facilitated Development & Testing:** Implemented a suite of C++ cheats for efficient debugging and testing of gameplay mechanics; this initiative reduced the average bug resolution and testing time by 20%.
- **Streamlined Backend Communication:** Devised an API manager using **Unreal Reflection System** to simplify communication with the game's backend through HTTP requests and responses, minimizing http request code to only 5 to 7 lines.
- **Server Browser:** Built a Server Browser for developers that evolved into a public lobby browser using **Online Session Interface** with Steam integration.
- **Contributed to UI Design:** Assisted the art team in reskinning the main menu user interface using **UMG** in C++ and making base classes to facilitate future widget creation.
- **Meta-Game Programming:** Implemented a player statistics tracking and display system. Ensured data integrity through close collaboration with back-end engineers, and created a user-friendly experience for visualizing player XP and progress by working extensively with the UI/UX team.
- **Network Optimization:** Improved network traffic by 23% through identifying and refactoring bottlenecks and minimizing the amount of data to replicate.
- **Performance Optimization:** Utilized profiling tools like **Unreal Stats** and **Unreal Insights** to identify performance bottlenecks and implement improvements, gaining 12 more frames/second.
- **Team Communication:** Assisted quality assurance team to track down and fix priority bugs, conducted brainstorming sessions with game designers and participated in weekly meetings within a small agile development team.

- **Technical Documentation:** Authored documentation for various game systems like the AI module, API manager and the celebration system.

## EDUCATION

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### **Professional Diploma in Game Development,**

*Information Technology Institute (ITI)*

Oct 2020 – Jun 2021 | Smart Village, Egypt

Completed a 9-month full-time program focused on game development using **Unity** and **Unreal Engine**, with strong emphasis on hands-on projects and applied research.

### **Bachelor's in Computer and Information Science,**

*Ain Shams University*

2012 – 2017 | Cairo, Egypt

## CERTIFICATES

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### **Rational Game Design**

Game Creators' Odyssey (Ubisoft)

### **Rational Level Design**

Game Creators' Odyssey (Ubisoft)

### **C++ Programming Professional Certificate**

OpenEDG C++ Institute

## TECHNICAL SKILLS

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### **Languages & Programming:**

C/C++, Lua, Java, Python, C#, MySQL, XML/XSD

### **Core Concepts:**

Data Structures & Algorithms, Object-Oriented Programming (OOP), Problem Solving, Design Patterns, Memory Management, Software Architecture, Debugging & Profiling, Performance Optimization & Tuning, Version Control Best Practices

### **Game & Application Frameworks:**

Unreal Engine, Unity, SFML, Qt/QML

### **Workflow & Collaboration:**

Agile Methodologies, Git (Version Control), CI/CD, Github, Effective Communication, Teamwork

### **Development Tools & Environments:**

Visual Studio, Qt Creator, IntelliJ-based IDEs, Git Bash, SmartGit, Fork, Linux OS

## PROJECTS

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### **Delivery Rush** Mar 2021 – Jun 2021

A top-down isometric multiplayer game using Unreal Engine 4 and Steam. Led game design, crafting the Game Design Document (GDD). Leveraging Unreal's Seamless Travel, I implemented a robust lobby system to manage player data seamlessly between the lobby and in-game environments.

### **Lost Meow** Feb 2021 – Feb 2021

A 2D puzzle-platformer for the Global Game Jam 2021. As a key member of the development team, I contributed to game design, level creation, and player controls, implementing a dual-perspective mechanic where players simultaneously controlled two characters in opposing gravity worlds.

## LANGUAGES

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**English** – Fluent, both written and spoken • **German** – Novice • **Arabic** – Native