

MOHAMED KHALIL MZOUGH

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Education

TEK-UP Private College of Engineering & Technology

Bachelor of Engineering (B.E.) in Computer Engineering

Sep. 2024 – Present

University in Tunisia

Institute of Arts and Multimedia Manouba

Bachelor's Degree in Video Game Development

Sep. 2021 – May 2024

University in Tunisia

Institute of Arts and Multimedia Manouba

Associate Degree in Multimedia Communication

Sep. 2020 – May 2021

University in Tunisia

Experience

Lanterns Studio

Game Developer Intern

Jan. 2024 – June 2024

Charguia, Tunis

- Developed systems, features, and minigames for a cooperative split-screen game using **Unreal Engine**, **Blueprint**, and **C++**.
- Optimized game performance using **LODs** and **Nanite**, reducing runtime errors and improving rendering efficiency.
- Refined animations using Blender, ensuring smooth root motion and in-place animation integration.

Independent Game Developer

Freelance

May 2023 – Nov. 2023

Remote

- Developed features and designed systems for existing games using **Unity** and **C#**.
- Collaborated with team members using **Git** for version control and task management.

Projects

Online Multiplayer Pong | C/C++, SDL2, WinSock API

Feb. 2025 – Present [GitHub](#)

- Developed a local and online multiplayer Pong game using **C++** and **SDL2** for rendering and input handling.
- Implemented a **client-server architecture** using **TCP/IP** to synchronize game states across networked devices.
- Designed and optimized **physics-based ball-paddle collision** with dynamic angle reflections and real-time score tracking.
- Enhanced performance with **multi-threaded game loops** and frame-rate control for a smooth experience.

Chess | C#, Unity

May 2024 – Present [GitHub](#)

- Developed a functional chess game with standard gameplay mechanics.
- Implementing matchmaking and game lobby systems.
- Applied SOLID principles and design patterns to enhance maintainability.

2D top-down shooter | C#, Unity

June 2024 – Present [GitHub](#)

- Developed a performance-optimized 2D game with mouse-based movement and shooting mechanics, enhancing interactivity and responsiveness.
- Implemented object pooling for efficient projectile and enemy management, reducing memory usage and improving performance.
- Designed AI-driven enemy behavior with intelligent targeting and dynamic difficulty scaling, creating a progressively challenging experience.

Advanced Character Mechanics | Unreal Engine, Blueprint, MetaHuman

Oct. 2023 – Present [Youtub](#)

- Developed a **third-person character system** with locomotion, climbing, vaulting, ladders, and cover mechanics.
- Implemented **fall damage** and **camera-aligned movement** for fluid character control.
- Used **MetaHuman** for character models and integrated animations from Mixamo and Unreal Marketplace.

Technical Skills

Programming Languages: C/C++, C#, Python, Java, SQL, HTML/CSS

Software & Tools: Unity, Unreal Engine, Visual Studio, VS Code, Git, Blender

Languages Spoken: Arabic, English, French