

AKRAM LOUATI

Unity Game Developer | Technical Designer | XR Developer | R&D

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PROFESSIONAL SUMMARY

Computer Science Engineer with experience in software engineering, game development, and XR technologies. Strong problem-solving, collaboration, and adaptability skills, with a focus on developing reliable solutions.

PROFESSIONAL EXPERIENCE

K&K Studio

Multiplayer Cross-Platform Game Developer Intern | Hybrid

La Soukra, Tunisia

Jan 2026 – Jul 2026

- Engineered Arena Champs, a real-time multiplayer game spanning PC, VR, Web, and mobile, with shared combat, destructible arenas, power-ups, match flow, and leaderboards.
- Implemented a server-authoritative Unity architecture using C#, Netcode for GameObjects, Authentication, Lobby, and Relay, including platform-aware PC/VR spawning and synchronized scene transitions.
- Built synchronized shooting, projectile pooling, destructible block layers, temporary effects, random arena events, and finite-state-machine enemy AI while separating immediate local feedback from server validation.
- Integrated a Node.js/Express API and MongoDB Atlas for player profiles, wins, and rankings linked to Unity Player IDs; documented and tested endpoints with Swagger/OpenAPI.
- Optimized ownership, pooling, network updates, IK target synchronization, and cleanup workflows, achieving over 120 FPS on PC and 72 FPS in VR in project tests.
- Developed a parallel Meta Horizon Worlds version in TypeScript with persistent statistics, reusable object pools, and event-driven managers, measuring approximately 62 FPS on Web and 60 FPS on mobile in test scenarios.

K&K Studio

VR Game Developer Intern | Hybrid

Ariana, Tunisia

Jun 2025 – Aug 2025

- Developed SecurePark VR, a parking simulator and night-defense experience featuring vehicle controls, object interactions, gameplay objectives, and immersive VR mechanics.
- Created a multilingual tutorial flow and integrated VFX, SFX, interaction feedback, and performance optimizations for a smoother headset experience.
- Collaborated on game design, prototyping, mechanic iteration, testing, and defect resolution in a production-oriented Unity workflow.

Inetum

Web Developer Intern | On-site

Lac II, Tunisia

Jul 2024 – Sep 2024

- Developed COMPARI, a product-price comparison web application for the Tunisian market, using Angular, Spring Boot, PostgreSQL, and web scraping.
- Implemented backend services, database persistence, scraped-data processing, and responsive interfaces for searching and comparing product offers.
- Used Git-based collaboration and separated frontend, backend, database, and scraping responsibilities for maintainable development.

Inetum

UX/UI Intern | On-site

Lac II, Tunisia

Jul 2021 – Aug 2021

- Designed an interactive office application prototype in Adobe XD with reusable components, user flows, page states, and a consistent visual system.

PROJECTS

Smart Visitor Analytic (SVA) | Python, FastAPI, YOLOX, ByteTrack, OSNet, PostgreSQL, CUDA

2026

- Developed a GPU-accelerated real-time visitor analytics platform that detects and tracks people, re-identifies returning visitors, manages campaign sessions, stores visitor events in PostgreSQL, and provides FastAPI health, campaign, diagnostic, snapshot, and live MJPEG preview endpoints.

A Past Journey | Unity, C#, AI Navigation, FSM, Blender

2026

- Created a third-person action-adventure game in 2 days for Brackeys Game Jam 2026.2, featuring a three-step sword combo with active damage windows, FSM-based skeleton AI, coordinated enemy attack positions, dialogue and type-writer systems, environmental traps, player respawning, and a three-hit Core objective; published the WebGL build on itch.io.

Bike-Delivery: 3D Endless Runner
|
Unreal Engine, C++, AI, VFX/SFX

2025

- Built an endless-runner delivery game with traps, dynamic obstacles, AI robots, and turrets; programmed enemy behaviors, optimized gameplay, and integrated audiovisual feedback.

AI Racing Agent
|
Unity, ML-Agents, Hybrid A, FSM, Monte Carlo*

2025

- Trained a reinforcement-learning vehicle agent to navigate dynamic tracks and detect obstacles; created a second navigation prototype combining Hybrid A*, finite-state logic, and Monte Carlo simulation.

Physics Engine - Dynamic Cube Fracture
|
Unity, C#, Physics Simulation

2025

- Built a custom physics-based cube fracture system in Unity, implementing semi-implicit Euler integration, quaternion-based rotations, Sphere-AABB collision detection, impulse-based collision response, inertia tensor calculations, and fracture-wave propagation entirely through code without using Rigidbody or Collider components.

VR Milk Industry Simulator
|
Unity, VR, AI, C#

2024

- Simulated industrial machine operations and product flow; engineered conveyor mechanics, a defect-detection AI system, warning interfaces, and VFX/SFX feedback.

Baladity Municipal Platform
|
Angular, Web/Mobile/Desktop, GPT-4

2023

- Developed a responsive multi-platform municipal-management application with a GPT-4 assistant and drag-and-drop task-management features.

NIGHTMARE
|
C, SDL 1.2, Doxygen, Linux

2021

- Developed a 2D action game in C with SDL 1.2 for Linux, implementing animated hero and enemy states, movement and combat logic, AABB collision detection, health and win/game-over flows, a minimap, timer, audio, and a keyboard-and-mouse menu; documented the source code with Doxygen.

AWARD

Global Game Jam 2026 | 3rd Place

El Ghazala, Tunisia
Feb 2026

The Office Intern | ISAM Manouba, TF Bank, Jawhara FM, MG

- Created a first-person 3D game during the jam, implementing NavMesh AI, NPC animations, grab physics, a first-person controller, office environments, and VFX/SFX.

EDUCATION

ESPRIT – Private School of Engineering and Technology

Ariana, Tunisia
2020 – 2026

Engineering Degree in Computer Science, Game Development Specialization

Lycée 15 Novembre 1955

Sfax, Tunisia
2020

Baccalaureate, Economics and Management

TECHNICAL SKILLS

Game & XR:

Unity, Unreal Engine, OpenXR, Meta Horizon Worlds, HurricaneVR, ML-Agents, Netcode for GameObjects, finite-state machines, Hybrid A*

Programming:

C#, C++, C, Java, Python, TypeScript, JavaScript, PHP, Bash, PL/SQL

Backend & Web:

Node.js, Express, Spring Boot, Angular, Symfony 5, REST APIs, Swagger/OpenAPI

Cloud & Databases:

MongoDB Atlas, Firebase, Supabase, PostgreSQL, MySQL

3D & Design:

Blender, Maya, Substance Painter, Adobe Illustrator, Adobe XD, Premiere Pro, VideoScribe

CERTIFICATIONS & LANGUAGES

Certifications:

Cisco Networking Academy Learn-A-Thon 2026 · AWS Academy Graduate, Cloud Foundations · Evaluation and Light Customization of Large Language Models, NVIDIA · CCNA: Switching, Routing, and Wireless Essentials, Cisco · Enterprise Design Thinking Practitioner, IBM

Languages:

Arabic (Native) · English (Fluent) · French (Fluent)