

# KEROLLOS MAKAR

Game Developer · Unity 3D - C# Engineer

n.kerollos52@gmail.com · +20 155 583 9967 · Alexandria, Egypt · kerollos-makar.itch.io · [kerollos-makar.vercel.app](#)

---

## PROFESSIONAL SUMMARY

Unity developer with a focus on gameplay feel, physics systems and game optimization. I've taken three games from concept to shipped, handling everything from core mechanics and level design to VFX, Web/Mobile optimization, and environment art. Currently studying Computer Engineering at Pharos University, where I'm deepening my understanding of systems design and software architecture.

---

## CORE COMPETENCIES

- ▶ Unity 3D / 2D Engine Architecture
- ▶ C# Programming & OOP Design Patterns
- ▶ Real-Time Simulation & Rendering
- ▶ Procedural & Environment Generation
- ▶ Particle & VFX Pipelines
- ▶ Web Optimization & Build Performance Tuning
- ▶ Shaders and Materials
- ▶ Object Pooling & Memory Management
- ▶ 3D Level Design / Prototyping
- ▶ Version Control, Git / GitHub Workflows

---

## SELECTED PROJECTS

### Rocket Boost

*Physics-Based 3D Platformer · Unity 3D · Lead Developer*

- Rigidbody flight controller using `AddRelativeForce` and `AddTorque`; rotation and thrust on separate input axes.
- VFX Graph effects driven by physics state — thrust particles active on Spacebar hold, crash effect triggered on collision check.

### Alexandrian Runner

*Infinite Endless Runner · Unity 3D · Lead Developer*

- World-scrolling runner: obstacles and terrain tiles move toward a stationary player transform using a recycling pool, no `NavMesh`.
- Spawner generates obstacles from a weighted list at runtime; spawn rate scales with a session timer.

### Galaxy Strike

*Arcade Shooter · Unity 3D / WebGL · Lead Developer*

- Cursor aim resolved with `Physics.Raycast` against a world-plane; ship position constrained to a 2D XZ bounds box inside a 3D scene.
- Multiple swappable terrain prefabs loaded per scene; outer space skybox.

---

## EDUCATION

### Pharos University in Alexandria

*Bachelor of Science, Computer Engineering*

### Unity Learn, Official Certification Program · 2023 – Present

*Junior Programmer Pathway · C# Fundamentals for Game Development · Advanced Game Logic & Architecture*

---

## TECHNICAL SKILLS

**Languages & Engines:** C# (Advanced) · Unity 3D / 2D · HLSL / ShaderLab · JavaScript (basic)

**Tools & Pipelines:** VFX Graph · Shader Graph · ProBuilder · Blender · Git / GitHub · WebGL Build Tools

**Methodologies:** Object-Oriented Design · Component Architecture · Agile / Iterative Development · Performance Profiling

**Languages:** Arabic (Native) · English (Professional / C1)