Chaouki Mabrouki

TOOLS & GAMEPLAY PROGRAMMER · UNREAL ENGINE 5 · C++

+44 7308 179677 | Chaouki.Mabrouki@hotmail.com | **Portfolio** | **GitHub** | **Fab Store** | **LinkedIn**

Open to relocation, UK and EU | **Requires Skilled Worker visa sponsorship**

PROFILE

Unreal Engine tools programmer. Shipped 7 commercial UE5 plugins and asset packs in 5 months as sole developer, covering procedural generation, runtime mesh manipulation, and editor tooling. Every plugin ships with full C++ source, automation tests, and in editor onboarding, and clears Epic's strict marketplace build across multiple engine versions. Looking to bring that work into a team codebase.

EXPERIENCE

Tools & Gameplay Programmer / Overthink Studio (self published)

MAR 2026 to PRESENT

Shipped 7 commercial Unreal Engine 5 products in 5 months as sole developer. Sold on Fab, itch.io and ArtStation.

- Cut slicing of 50k triangle meshes from a 30 to 80 ms game thread stall to non blocking, via async TFuture slice, off thread Chaos hull cook, and zero copy mesh swap.
- Regenerated 2.1M voxel caves in 19 ms by parallelising bake, noise and Marching Cubes across cores; 496k triangle bake in under one second.
- Drove marketplace build rejections to zero by reproducing Epic's strict non unity build locally and clearing IWYU and symbol collision defects pre submission.
- Maintained one codebase compiling warning clean on UE 5.6 to 5.8 under warnings as errors, with no per version branches.
- Shipped 59 automation tests and asserted wall clock performance budgets, so regressions fail the build instead of reaching users.
- Removed C++ as a buyer requirement through a full Blueprint API over split Runtime and Editor modules, plus Slate setup wizards.
- Fixed an editor only ghost geometry bug by tracing a stale render proxy, and patched live PCG graph refresh by reading Epic's editor source.

Gameplay Programmer / Freelance

JAN 2024 to OCT 2024

- Built a custom 3D engine in C++ and OpenGL with event driven architecture, real time lighting, LOD terrain and billboarding.
- Isolated input, rendering and logging behind unit tested interfaces using Google Test, so systems swap without touching call sites.

Private Tutor / Inicio Exclusive Private Tuition

AUG 2023 to SEPT 2025

- Taught GCSE Computer Science and French to 7+ students weekly, online and in person.

SELECTED PRODUCTS

Subterra, PCG Volumetric Cave Generator UE 5.7 / 5.8 · C++

Seed driven multi level cave labyrinths exposed as native PCG nodes. Marching Cubes over a 2.1M voxel grid with fBm rock displacement, watertight collidable output, seamless tiling, and async extraction that holds the editor at 60+ FPS mid bake. 59 automation tests and a reproducible performance suite.

Cleave, Realtime Mesh Slicer UE 5.6 / 5.7 · C++

Runtime slicing of arbitrary meshes on any plane, preserving UVs, normals, tangents and vertex colours, with recursive re slicing. Cap filling chains unordered cut chords into closed loops and triangulates polygons with holes. Three call public API with auto fitted collision.

Horror Camera Kit UE 5.8 · C++

Eight layered camera behaviours blended additively through Unreal's native camera modifier pipeline, so it rides on an existing camera rather than replacing it. Data asset preset architecture, plus an all C++ Slate setup wizard with a custom asset factory.

Also shipped

EasyWeb procedural spider web generator (UE 5.8, C++), Asset Pipeline Validator, Sci-Fi Cave Environment and Low Poly Horror Room asset packs.

TECHNICAL SKILLS

Languages	C++, C#, Python, Blueprint, GLSL
Unreal	Runtime and Editor module architecture, Slate and ToolMenus tooling, asset factories, data assets, PCG framework and custom nodes, GeometryProcessing and Dynamic Mesh, camera modifier pipeline, Chaos collision, Nanite, Niagara
Systems	Procedural generation, voxel meshing and Marching Cubes, runtime mesh slicing and triangulation, multithreading with TFuture and async off thread work, gameplay AI, real time rendering and shaders
Practice	Automation testing, performance regression budgets, RunUAT BuildPlugin verification, multi version engine support, profiling with NVIDIA Nsight, Google Test, Git, Visual Studio 2022
Content	Blender, Maya, Substance Painter, Photoshop, PBR and post process material authoring, modular kit design

EDUCATION

BSc (Hons) Computer Games Programming

OCT 2021 to JUNE 2025

De Montfort University, Leicester, UK · Advanced Shader Programming, Game Engine Architecture, Physics Engine Programming, AI for Simulation, Advanced OOP in C++

BTEC HNC Information Technology

SEPT 2017 to FEB 2020

ABC Horizon, Istanbul, Turkey

LANGUAGES

English (fluent) · French (fluent) · Arabic (fluent) · Turkish (basic)