Macrae Smith

Graphics, Gameplay, and Tools Programmer
Dallas, TX | 469-999-6656 | macrae.smith00@gmail.com
LinkedIn: www.linkedin.com/in/macrae-smith | Portfolio: macraesmith.com

SUMMARY

Graphics, Gameplay, and Tools programmer with proficiency in graphics and D3D12 rendering API, Unreal Engine 5, procedural generation, and gameplay programming. Skilled in C++ and engine architecture, with experience contributing to my own custom game engine.

SKILLS

Languages & Tools: C++, C#, HLSL, Verse, D3D11, D3D12, fMod, ImGui
Software & Engines: UE4, UE5, UEFN, Unity **Moderate Experience:** Maya, Substance, ZBrush
Methodologies & Concepts: Graphics, Technical Art, Procedural Generation, Physics, Networking, Multi-Threading, Virtual Reality, Gameplay AI behavior

PROFESSIONAL EXPERIENCE

The Devhouse Agency Dallas, TX
Game Developer May – October 2024
- Developed single-player and networked multiplayer gameplay for multiple projects in UE5, UEFN, and Unity.
- Gave technical consultation to stakeholders and ensured product quality on mobile and PC platforms.

Kintsugi Interactive Remote
Co-Owner, Producer, and Gameplay Engineer July 2023 – September 2024
- Started an indie studio with a team of programmers, artists, and level designers.
- Managed Agile production meetings and planning to ensure milestone deliveries.
- Designed and implemented gameplay for a 3D physics game in Unity.

Soul Flare Remote
Graphics Programmer and Technical Artist February – August 2024
- Developed procedural animation system in UE5 for a 3D narrative game.
- Created custom VFX and integrated with gameplay.

SHIPPED TITLES

***Kila: Hourbound* | Steam | Team Size: 26** (7 Programmers) SMU Guildhall GameLab
Lead Programmer May – December 2025
- Managed team of programmers and made technical presentations to stakeholders throughout production of a 3D action platformer game in UE5.
- Helped design and architect a melee combat system with dynamic animations and VFX.
- Developed tools for puzzles, camera, and audio systems.
- Maintained game optimization, builds, and release requirements for Steam.

***HardDriverz* | Steam | Team Size: 54** (14 Programmers) SMU Guildhall GameLab
Gameplay and Tools Programmer February – May 2025
- Developed 3D dynamic camera system and VFX system for an arcade racer in UE5.
- Led asset integration and performance profiling and worked closely with artists and level designers.
- Assisted with build pipeline, source control, and bug testing ensuring game stability.

***Get There!* | Fortnite Creative** The Devhouse Agency
Gameplay Developer May – July 2024
- Designed and programmed geography-based puzzle adventure in Unreal Fortnite Editor.
- Optimized gameplay in response to *Fortnite's* memory requirements.

PERSONAL PROJECTS

C++ Engine August 2024 – May 2026

- Solo-developed a 2D and 3D C++ engine from the ground up.
- Implemented primitive physics, collisions, and raycasting.
- Built D3D11 and D3D12 rendering pipelines.
- Designed event system, developer console, multithreaded job system, controller and mouse/keyboard input framework, networking, and byte-level serialization utilities.

Master's Thesis | C++ Engine June 2025 – May 2026

Procedural Generation and Rendering Techniques for Underwater Environments

- Architected and developed a technical artifact showcasing techniques for creating game-optimized underwater environments.
- Implemented multi-threaded procedural voxel world generation with climate-driven biomes and vegetation.
- Engineered Gerstner-based water, boid fish simulation, and realistic underwater lighting including fog, caustics, and light shafts.

SimpleMiner | C++ Engine August – December 2025

- Developed a *Minecraft*-inspired voxel game with multi-threaded procedural world generation.
- Implemented persistent 3D noise terrain, caves, climate systems, and flood-fill lighting and liquid propagation systems.
- Built systems for editable terrain, TNT destruction, and physics-driven locomotion.

Chess | C++ Engine June - August 2025

- Developed a 3D chess game with networked multiplayer.
- Implemented Blinn-Phong lighting and a OBJ mesh loading pipeline.

Doomenstein | C++ Engine March - May 2025

- Built a 2.5D first-person action shooter game inspired from *Doom* and *Wolfenstein* with single-player and split-screen multiplayer.
- Developed possession-based controller architecture and state-driven enemy AI with swarming, stalking, and sound-based alert states.
- Designed and implemented sprite sheet animations for characters and weapon VFX.

Zombie Disc Golf | UE5 August – December 2023

- Designed and developed a virtual reality physics game in UE5.
- Established a dynamic user interface designed specifically for VR.
- Engineered reactive AI behavior with zombie swarms.
- Implemented locomotion system that minimizes motion sickness while reinforcing core gameplay mechanics.

EDUCATION

SMU Guildhall Dallas, TX

Master of Interactive Technology, Specialization in Software Development May 2026

Samford University Birmingham, AL

Bachelor of Science, 3D Animation and Game Design, Minor in Computer Science December 2023