

# Zhangir Nurmukhambetov

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## TECHNICAL SKILLS

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**Languages:** C++, C#, GLSL, HLSL, Python

**Frameworks & Libraries:** OpenGL, EnTT (ECS), ImGui, Cereal, GLM, tinyglTF, ImGuizmo

**Game Engines:** Unreal Engine 5 (Blueprints & C++), Unity (C#), Godot

**Developer Tools:** Visual Studio, Visual Studio Code, Git, Perforce (P4V), GitHub Actions

## SELECTED PROJECTS

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**Zentera: Custom C++ Engine Voxel Game (In Development)** | *Programming Lead* May 2025 – Present

- Serving as Programming Lead for an in-development project, acting as the central point of contact between team members and instructors while overseeing technical direction and planning.
- Facilitating collaborative workflows and project clarity by maintaining status transparency and prioritizing high-impact tasks in alignment with team objectives.
- Guided the development of the Kudzu voxel engine, enabling seamless collaboration among 9 programmers, 3 designers, and 4 artists, with deployment targets on Windows and PS5.

**Fire Ant Engine** | *C++, OpenGL, GLSL, EnTT, ImGui, Cereal* Feb 2025 – Apr 2025

- Led development of a custom C++ strategy game engine featuring a terrain editor, prefab system, flow-field AI navigation, and in-engine UI editor.
- Engineered terrain rendering and editing tools, including height and texture manipulation, prop placement, and scene serialization.
- Optimized engine performance to support large maps and numerous units on Windows and Nintendo Switch platforms.
- Delivered a fully functional strategy game engine within an 8-week timeframe, laying the groundwork for future projects and cross-platform compatibility.

**Custom Terrain Editor** | *C++, OpenGL, GLSL, ImGui, GLM* Nov 2024 – Jan 2025

- Developed a solo research project focusing on editable terrain with various brush tools, serving as the foundation for the Fire Ant Engine.
- Implemented terrain mesh deformation via height maps, dynamic normals, and displacement using vertex shaders.
- Established a robust terrain editing toolset that was directly integrated into the Fire Ant Engine, enhancing its level design capabilities.

**Custom C++ Game Engine** | *C++, EnTT, ImGui, Cereal, STB, tinyglTF, ImGuizmo* Sep 2024 – Nov 2024

- Designed and implemented core engine functionalities including ECS architecture, particle system, ImGui editor with gizmo tooling, and GLTF runtime loader.
- Developed a resource manager, hierarchy system, cross-platform engine abstractions, JSON serialization, and a tile-based level editor.
- Delivered a versatile and extensible game engine over 8 weeks, providing a solid foundation for subsequent projects and cross-platform development.

**IgKnighited** | *Unreal Engine 5* May 2024 – Jun 2024

- Developed core gameplay systems for a twin-stick shooter, including input mapping, local multiplayer, enemy attacks, player damage, collectables, power-ups, and in-engine animations.
- Collaborated with a multidisciplinary team of 4 programmers, 3 designers, and 5 artists to deliver a cohesive gaming experience on Windows.
- Successfully launched the game on itch.io, receiving positive feedback and facilitating further development through community engagement.

## EDUCATION

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**Breda University of Applied Sciences**

*Bachelor of Science in Creative Media and Game Technologies*

September 2023 – Present

*Breda, Netherlands*