SHANGSONG XUE (NOFER)

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EDUCATION

Boston University - Boston, MA
Computer Science BA Expected May 2026
Relevant Coursework: Computer Graphics, Algorithm, Programming Language

Case Western Reserve University - Cleveland, OH
Computer Science (BS) Sep 2022 – May 2024
GPA: 3.78/4.00 *(Achieved Dean's High Honors in all completed semesters)*
Relevant Coursework: Game Development, Data Structures, Compiler Design, Logic Design and Computer Structure, Linear Algebra, Discrete Math, Differential Equation, Multi-variable Calculus, Java

Harvard University Summer School - Remote
Introduction/Game Development Summer 2023
GPA: 4.00/4.00

WORK EXPERIENCE

Chief Game Developer
Educational Game Development Team at Case Western Reserve University Dec 2022 – May 2024

- Spearheaded early-stage game design and prototyping with another 3 founding members of the team
- Reviewed resumes during later team expansion and guided new members through project onboarding
- Implemented and maintained several core gameplay mechanisms over 2 years
- Executed performance optimization, debugging, project refactoring, and 3 project overhauls
- Hosted interactive learning sessions for local students with different levels of education
- Pitched project to funders, as well as teachers and students across 4 local K8 schools
- Collaborated with other members through ticketing systems, such as Codecks and Trello

PROJECTS

Customized GPU Renderer C++/OpenGL Dec 2023 – Present

- Comprises a linear algebra library of vector, matrix, and quaternion for 3D transformation
- Includes model file parsing, lighting rendering, input handling, and customizable user interface for scene adjustment
- Designed to support multiple rendering API and platform API in the future (currently supports OpenGL on Windows)
- Plan to add a physics system and other modules to produce a customized game engine

Software Renderer C++/Python Feb 2023 – Mar 2023

- Software rasterization of geometries
- Supports model file parsing, lighting rendering, and input handling

Game Jam Projects & Unity Mini-projects Jun 2022 – Present

Several games created in collaboration during 48H game jams as the sole programmer on the team, and a variety of Unity mini-projects exploring ideas such as scriptable render pipeline, GPU-assisted mass computation, stylized/non-photorealistic rendering, ray marching, etc.

SKILL

Programming Language: C++, Python, C#, OCaml
Game Engine/Framework: Proficient in Unity and PyGame (Python), familiar with LÖVE 2D (Lua)
Digital Content Creation Tools: Blender, Maya, Adobe Photoshop, Adobe Premiere