

James Thompson

Gameplay Programmer

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Education

Bachelor of Science, Computer Science and Game Design

April 2027

DigiPen Institute of Technology

Skills

Programming Languages:

C/C++, C#, GLSL, Python, SQL, Unreal Blueprints

Technical Expertise:

Gameplay Programming (Character/Camera Controllers, Combat Systems, Action Lists/Command Patterns), Graphics, AI Behaviors (A*, Behavior Trees, FSMs), Physics, User Experience, Telemetry, Automation

Tools/Frameworks:

Unreal Engine, Unity, OpenGL, ImGui, JSON, GitHub, Perforce, SVN

Professional Experience

Gameplay Programming Intern

Graphite Lab / Roller Coaster Tycoon Story — Unity, C#

- Analyzed a large production codebase and implemented several requested puzzle game mechanics, empowering designers to author dozens of new levels.
- Collaborated with a dedicated QA team to identify and fix dozens of user-submitted bugs, improving project stability and performance and increasing player satisfaction.

Project Experience

Technical Lead & Gameplay Programmer / Pawlarity / Team of 26 — Unreal Engine, C++

- Developed magnetic attraction and repulsion systems for free, pivoted, and spline-constrained interactions, enabling designers to author multiple magnetic gameplay behaviors.
- Performed user research playtests incorporating feedback and fixing dozens of bugs to ensure good user experience, project stability, and performance.
- Instrumented dual controller and keyboard support for local co-op play.

• **Solo Developer / ROW — Unity, C#**

- Simulated the kinesthetic experience of rowing a boat using realistic offset force curves, physically based water with buoyancy, per-axis drag, animation blending/layering, and spatial audio.
- Developed a robust water shader implementing depth-based transparency, vertex-displaced waves, dynamic foam, and buoyancy.

Graphics Programmer / Phantom Penumbra / Team of 5 — Custom Engine, C++

- Developed a bespoke 2D batch rendering pipeline using OpenGL, GLFW, and STB-Image.
- Engineered a cache-coherent particle system supporting over 100k particles and offering designers animated flipbooks, color & scale over lifetime, emission shape, and velocity/acceleration curves.
- Architected a dynamic 2D lighting system, utilizing bespoke GLSL shaders, supporting multiple moving light sources and shadow casters.

Gameplay Programmer / Magnet Opus / Team of 4 — Unity, C#

- Implemented several enemy AI behaviors and pathfinding using FSMs and waypoint graphs
- Developed a 2D character controller capable of transitioning between wall-sliding/jumping, hanging from ceilings/ledges, pulling/pushing off surfaces, running, and walking.