



Logan Hampel

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Stevens Institute of Technology

Summer Technology Program Application Statement

My name is Logan Hampel, and I am a 17-year-old 11th grade student with a strong interest in technology and software engineering. As a child, I was surrounded by discussions of software design as my father designed stock trading systems on Wall Street, and then started a software company named Ticket Utils that was acquired by eBay. Being exposed to this at an early age sparked my interest in coding and software development.

I started playing Roblox games when I was eight years old, and I began learning to code and develop my own games when I was twelve. In 10th grade, I took AP Computer Science Principles and earned an A+ and scored a 5 on the AP exam. In September 2025, I also took the ACT for practice and earned a perfect score of 36 in Science, and I am scheduled to take the ACT again after more formal preparation within the next month.

Outside of academics, I am a competitive track athlete and placed second in the 600-meter race at a ten-school meet just a few weeks ago. I am also working toward the rank of Eagle Scout and am currently planning my Eagle Scout project, which involves designing and building an outdoor nativity set for my local church.

For my Stevens summer application, I am presenting a project called Dungeon Fighter, a player-versus-environment ("PvE") dungeon game built on Roblox. Players progress through rooms, defeat enemies, battle bosses, and advance through increasingly complex levels. What matters most to me is not just the gameplay, but how the system is engineered. I designed the game using a service-based architecture, where each major feature is handled by its own service with an interface.

I used generative AI as a major part of my design process. I first defined the features and purpose of the game, such as combat and enemy behavior. I then used AI to help suggest how to separate the game into different service layers. However, all of the logic, coding, and testing were done by me. AI did not write the game for me; it helped me learn professional design patterns so I could write code faster and better.

I am especially interested in Stevens' technology-focused summer programs, particularly those related to Computer Science and Artificial Intelligence, with "Intermediate Computer Science" as my top summer program choice and "Robots, Humans, and AI" as my secondary selection.

The Dungeon Fighter's technical architecture, release roadmap, and generative AI workflow are fully documented in a GitHub repository, which can be accessed at <https://LoganHampel.com> or by scanning the QR code provided above.

Achievements

- AP CSP— A+ & AP Exam: 5
- ACT Exam — 36 in Science (Perfect Score)
- Creator & Lead Developer — Dungeon Fighter (Roblox)
- Eagle Scout Candidate — Eagle Project (In Progress)
- Track & Field — 600-Meter Race, 2nd Place (10-School Meet)



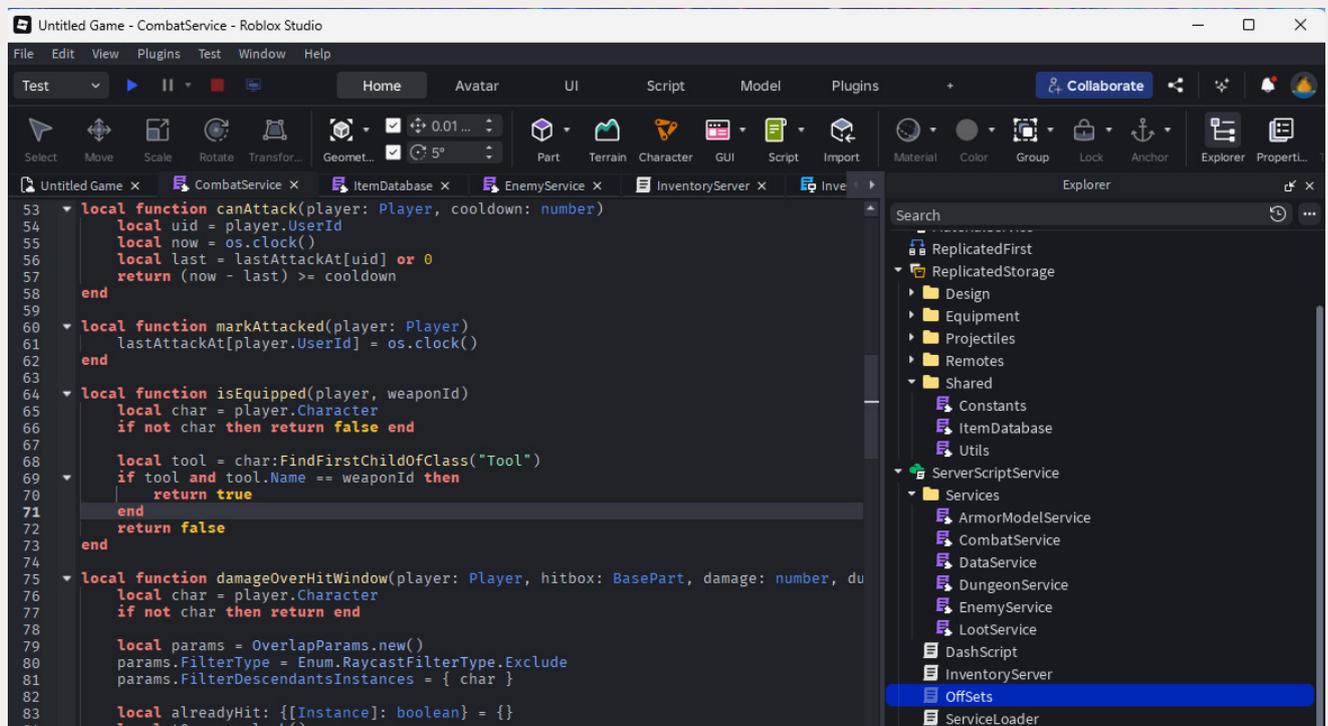
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Dungeon Fighter

Technical Architecture

A Roblox "PvE" dungeon game built with a service-oriented architecture

Dungeon Fighter - Technical Architecture



Player Experience

- Enter a run (dungeon instance)
- Fight enemies
- Earn drops (weapons/armor/materials)
- Equip items via hotbar + inventory UI
- Progress through stronger enemies + rarer loot

High Level Architecture

- **UI (Client)**
Inventory display, hotbar selection, player input; sends requests to server
- **Game Services (Server)**
Combat, enemies, dungeon flow, loot generation, equipment validation
- **Data Layer**
Load/save player profile

Core Service Modules

Name	Description
CombatService	Core combat hooks + damage application pattern (server authoritative)
EnemyService	Enemy lifecycle + spawn/cleanup structure
DungeonService	Dungeon/run flow scaffolding; supports iterating on rooms/waves
LootService	Drop generation + awarding items (ties into inventory)
Inventory + Hotbar	Hotbar active slot + equip flow (UI → server → character)

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— Built by Logan Hampel, 11th Grade, Ramsey High School —