Simon Ogorek

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Education

New Jersey Institute of Technology — Newark, NJ
Bachelor of Science in Computer Science, Minor in Game Development — *Sept. 2023 – Expected Dec. 2026*

Experience

Extended Reality Undergraduate Researcher — May 2025 – Present
NJIT MiXR Lab & Albert Dorman Honors College — *Newark, NJ*

- Designed and maintained an Express.js API backed by Microsoft Azure Blob Storage to support a Unity WebGL application and project-based data management system.
- Built and extended REST API endpoints to serve dynamic research project data for multiple collaborators.
- Collaborated with researchers and project leads through weekly design and technical reviews to refine system architecture and features.

Teacher's Assistant for Information Design Techniques — Jan. 2025 – Present
NJIT — *Newark, NJ*

- Provided support to students to aid in the understanding of the Unity Game Engine through one-on-one support and office hours.
- Helped with troubleshooting issues regarding logic and the Unity editor.

Code Coach — May 2024 – Present
theCoderSchool — *Ridgewood, NJ*

- Taught programming concepts to students at varying ages using project-based learning.
- Educated students in a progression based system to gradually improve the students skill sets.
- Adapted lessons to individual students to maintain interest while preserving educational value.

Projects

Red Wolf AI | *Unity, OpenAI API, Git* — May 2025 – Present

- Led technical development of an AI research project in collaboration with two research professors and a digital design student, creating an interactive experience that allows users to engage with an endangered species to promote empathy and education.
- Implemented an AI-driven question-answering system within a Unity project using OpenAI tools to retrieve and present up-to-date research information.
- Enabled spoken interaction with the virtual wolf through a pipeline of technologies supporting natural language processing and conversational dialogue.
- Following initial completion, served as a technical lead and resource for a capstone team; co-authored a research chapter with two faculty collaborators based on the project.

3D Graphics Engine | *C, Vulkan, SDL 2.0, Blender, Git* — Sept 2025 – Dec 2025

- Developed a custom 3D Graphics Engine for a course to understand the principles of rendering pipelines, physics systems, and engine architecture.
- Implemented monster functionality using a finite state machine and path navigation.
- Researched the implementation of an glTF armature system, with positive feedback for technical depth and approach.

Technical Skills

Languages: C, C#, C++, Python, HTML, CSS, JavaScript
Graphics & Game Technology: Unity, Blender, Vulkan, SDL2, WebGL
Frameworks & APIs: Express.js, OpenAI API
Developer Tools: Git, CMake, VS Code, Visual Studio