William Ozeas

C# | C++ | Unity | Standard ML | React | Git | Perforce | FMOD | Max/MSP

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Education

Carnegie Mellon University, Pittsburgh, PA, Expected Graduation May '23
Bachelor of Computer Science and Arts: Computer Science & Music Composition, Minor in Game Design, GPA: 3.97

Relevant Coursework

Computer Game Programming | Game Design, Prototyping, & Production | Computer Graphics | Principles of Imperative Computation | Parallel & Sequential Data Structures & Algorithms | Intro. Computer Systems | Computer Music | Principles of Functional Programming | Twisted Signals: Multimedia Processing | Applied Machine Learning | Intro. Computer Security | Matrices & Linear Transformations | Calculus in 3D | Probability Theory | Great Ideas in Theoretical Computer Science

Work Experience

Teaching Assistant, 18-090 Twisted Signals: Multimedia Processing at CMU; Pittsburgh, PA — January-May 2023
- Graded projects and assisted students for multimedia processing class in Max/MSP.

Research Assistant, Entertainment Technology Center at Carnegie Mellon University; Pittsburgh, PA — June-August 2022
- Developed Unity game for President's Cup government cybersecurity competition. Worked with 4 other programmers in a team of over 20 using C#, Perforce, and Mirror for networking the online game.

Software Development Intern, Amazon; Remote (Seattle, WA) — June-August 2020
- Implemented React front end of internal website to help Amazon monitor delayed orders from 3rd party sellers.
- Gained experience working in teams and learning new technology at large companies. Collaborated with other interns and employees to design an API to access an order database.

Projects

Games

Aperture - Graphics, Systems, Gameplay Programming | *C++* 2022
- Created photo-taking game in team of three in C++ with SDL and OpenGL in CMU Computer Game Programming.
- Personally implemented hardware occlusion culling, forward lighting, shadow mapping, picture grading & object detection, texture & csv pipelines, GLSL shaders for camera depth of field, fog, texturing, & color grading, and more.

Dimensional Rift - Team Co-Lead, Gameplay & Sound Programming | *Unity, C#, FMOD* 2022
- Managed Programming and Sound teams as Co-Lead, won "Best Sound" and "GCS Gold" (audience choice) awards.
- Implemented building system and dialogue pipeline and helped team members with other systems.

Polyrhythm - All Programming | *Unity, C#, FMOD* 2021
- Created rhythm game solo project with over 3,000 written lines of code.
- Designed event system to synchronize music and gameplay using FMOD callbacks.

Haunted VR - Sound Design & Implementation | *Unity, C#, FMOD* 2021
- Sound for a VR horror game in a team of 37. Interfaced with FMOD middleware.
- Implemented 40+ effects including an adaptive piano sound effect based on an object's speed.

Escape From Lab 8 - Gameplay Programming & Sound Implementation. | *Unity, C#, FMOD* 2021
- Programming for traditional rogue-like. Collaborated with 8 other programmers to work with rogue-like framework.
- Worked with two composers to implement adaptive soundtrack.

Octave - Gameplay Programming. | *Lua* 2019
- Created core gameplay loop for rhythm game in a team of 10.

Other

Scotty3D - Graphics Programming | *C++* 2021
- Implemented several features in a 3D modeling software, including several mesh transformations, realistic lighting using path-tracing, and animation rigging.

Malloc Project - Systems Programming | *C* 2019
- Implemented memory allocator in C with more efficient throughput and utilization on test cases than the standard C library through aggressive optimization.

Activities

Carnegie Mellon Game Creation Society - Consultant, Co-Lead, Programmer, Sound Designer, Composer — 2019-Present
- Created 8 games on teams of 6-14 each semester at Carnegie Mellon. Co-lead two games.
- Held "Consultant" executive role, where I helped organize club and gave a talk about FMOD and adaptive audio.