

Shalma Wegsman

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Education

M.Sc, Physics

New York University, 2022

B.A with Honors, Physics with a Minor in Mathematics

The University of Chicago, 2020

Skills

C#, C++, Python, Unity Game Engine, Unreal Engine, Blender3D, VR/AR, Arduino, Physics Simulation, OpenGL, WebGL, Multi-threading, Pytorch, 3D Math, Linear Algebra, Calculus, Algorithm development, Github, Perforce, Visual Studio Code, Superluminal, Optimization

Work Experience

Software Engineer III - Physics

October 2022 - June 2024

Intercept Games, Seattle, WA (remote)

- Worked as a Unity/C# game developer on Kerbal Space Program 2, with a focus on real-time physics simulations
- Rebuilt the buoyancy and thermal occlusion simulations from scratch, improving performance by over 40% through the implementation of multiple threaded jobs
- Improved existing gameplay systems including simulations of orbital mechanics, aerodynamics, and core math algorithms
- Collaborated with designers and artists to develop new features and communicate technical needs
- Performed performance analytics with Superluminal to find bottlenecks for optimization

Software Developer Intern

January - August 2022

Parallax, New York, NY

- Developed a multiplayer interactive chess game in Unity and C# for Lux, a 3D metaverse
- Used networking and RPC functions to sync the game experience for multiple players
- Collaborated with developers, engineers, and technical artists
- Used C# to script a chess game with rule-enforced game mechanics

Academic Experience

Quantum Mechanics Course Instructor

June - July 2024

Columbia University, New York, NY

- Developed and taught the course "Weird Science: The World of Quantum Mechanics" for the Columbia University Pre-College Program
- Covered topics from calculus, solving differential equations, quantum computing, and more

College Physics Instructor

January - August 2022

The Pratt Institute, New York, NY

- Taught two sections of the undergraduate course Introduction to Physics & Chemistry to architecture majors

Physics Graduate Researcher

September 2020 - June 2022

New York University, New York, NY

- Performed computational particle physics research resulting in multiple peer reviewed publications
- Implemented novel statistical methods in Python to search for signals of new particles
- Created simulations of particle systems and interactions in Python to compare to data
- Utilized cloud computing through NYU's High Performance Computing center