JACOB MANDELBROT
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Link To Portfolio Website: https://jacobmandelbrot.github.io/jacobmandelbrotdev/#projects

Education

Harvard University — *Cambridge, Massachusetts*   Expected Graduation Date: May 2026
Degree: B.A. in Computer Science. GPA: 3.73.
Relevant Coursework: Creating Video Games, Designing Virtual Worlds (XR/VR), Computer Graphics, Linear Algebra and Differential Equations.

Related Experience

Imaginary Hazard Studios
Senior Programmer   Nov 2023 - Present
- Recruit, train, and mentor the programming team while working closely with the art team (ten members altogether).
- Set the technical vision for the game projects, including choosing the right game engines, tools, and technologies to bring the creative vision to life.
- Establish and enforce coding standards, ensuring the codebase is maintainable, efficient, and bug-free.
- Created the backbone for all the major game systems and mechanics.
- Work on major aspects of the game such as player abilities and enemy behavior.

John Hopkins Applied Physics
Software Engineering and Simulation/Modeling Intern   June 2025 - Jan 2026
- Contributed to physics-based simulation and training systems developed in Unity.
- Designed and implemented internal tools, including a custom developer console and a node-based graph system for authoring workflows.
- Extended and modernized legacy systems by integrating AI-assisted functionality into existing pipelines.
- Collaborated within a large, cross-functional engineering team using agile workflows.

Harvard College Video Game Development Club:
President   Sep 2023 - Present
- Help manage multiple group projects from concept/prototyping to completion.
- Organize game jams and other club events.
- Teach Unity and Unreal engine tutorial workshops.
- Worked in diverse teams of programmers, designers, storytellers, and musicians.
- Enhanced technical skills by using the newest game development tools and software.

Code Ninjas
Game Programming Tutor/Game Developer   Jun 2020 - Dec 2021
- Coached students in designing and building their own games using the Code Ninjas engine. Role was integral to maintaining the quality of their work and a smooth advancement in their skills, transforming them into better game developers and programmers.
- Led summer classes with over 20 students, delving into specialized subjects like C#/C++ game development and python programming. During the classes, gave comprehensive lectures and created engaging additional lesson material to reinforce the students' knowledge and inspire their creativity.

Additional Experience

Massachusetts General Hospital:
Research Intern/Artificial Intelligence Programmer   Jul 2023 - Jan 2024
- Developed machine learning model using medical data from multiple imaging modalities to segment tissue infarction.
- Created model using U-Net architecture that has a similar accuracy to manual lesions drawn by experts.
- Used advanced linear algebra libraries within MATLAB to process, partition, and train models on 3D medical imaging data

Harvard Data Analytics Group:
Case Team Analyst   Sep 2024 - Dec 2024
- Work on data science project for Fortune 500 company
- Conduct exploratory analysis on first-party data.
- Design stand-alone models to simulate the impact of hyper-targeted advertisements on credit card applications using various machine learning models.
- Build out data-pipelines for models.

Music Organizations:
Clarinetist   Jan 2013 - Present
- Harvard Radcliffe Orchestra: oldest continuously active symphony orchestra in the United States, providing professional-quality performances to the Harvard and Cambridge community every year.
- Wisconsin Youth Symphony Orchestra: statewide musical organization, performing several concerts each season, doing outreach in Wisconsin communities encouraging students to learn classical music, and touring nationally or internationally approximately every other year.
- Interlochen Music Festival: intensive clarinet camp, studying with internationally renowned musicians and greatly improving clarinet playing and performing skills.

Skills

- Game Engines: Unreal, Unity
- Expert: C/C++, Python, C# , Java,
- Proficient: HTML, SQL, Javascript, React
- Version Control: Perforce, Github
- Misc: Multiplayer Networking, VR/AR, OpenGL, Blender 3D Modeling, FL Studio, UI in Figma