

Justin Steinman

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EDUCATION

University of Massachusetts, Amherst

September 2021 – May 2025

Bachelor of Science in Computer Science, Second Major in Pure Mathematics

Amherst, MA

- GPA: 4.0
- President of the Recreational Math Club

CS Courses: Data Structures, Algorithms, Software Engineering, Machine Learning, Systems, Computer Graphics

Math Courses: Calculus, Linear Algebra, Statistics, Real/Complex Analysis, Abstract Algebra, Topology

EXPERIENCE

Instructor

June 2021 – Present

Giant Machines

New York, NY

- Lead and prepare whole-class lessons in programming and methodology for high school and college students
- Support students individually with front-end and back-end development
- Communicate with team to improve curricula and class management, resulting in an NPS above 80

Research Experience for Undergraduates (REU)

June 2023 – August 2023

University of Massachusetts, Amherst

Amherst, MA

- Designed graph theoretical methods to efficiently solve large linear systems for multibody simulations
- Implemented a cell simulation in C++ as a sandbox for numerical methods
- Optimized existing methods to be 50% more efficient on simulations with millions of cells
- Consolidated findings into a concise report to be referenced by mathematical biologists

Peer Tutor

February 2023 – December 2023

UMass Learning Resource Center

Amherst, MA

- Tutored students in math and computer science courses ranging from programming to analysis
- Participated in 8 rigorous trainings, covering topics such as pedagogy, diversity/inclusion, and informal assessment
- Served over 200 students, more than any other tutor, and received overwhelmingly positive feedback

Developer and Animator

December 2021 – June 2022

Primer Learning

New York, NY

- Created mathematical animations with C# and the Unity game engine (~ 22 minutes of animation)
- Provided feedback to enhance the visualization of mathematical concepts for 1.5 million subscribers
- Developed utilities for the custom library used for future animations (e.g., a tool to animate decision trees)

PROJECTS

nubDotDev, YouTube Channel | *Python, Manim, Git*

July 2021 – Present

- Create educational math and computer science videos with 1 million views
- Contribute to an open-source animation software community of over 350 developers
- Craft visualizations of complex mathematical fields like graph theory and fractal geometry

Computerized Proof of an Original Conjecture | *C, nauty, Git*

June 2023 – August 2023

- Constructed a proof with nauty, a graph automorphism library, for an original conjecture in affine geometry
- Designed an isomorph rejection algorithm using new results from the Discrete Mathematics journal
- Reduced algorithm runtime by over 60% using graph invariants and dynamic programming

TECHNICAL SKILLS

Languages: Java, Python, C/C++, C#, JavaScript, HTML/CSS, SQL, LaTeX, Wolfram

Frameworks / Libraries: Node.js, Flask, Bootstrap, MongoDB, Chrome API, pandas, NumPy, Matplotlib

Developer Tools: Git, Linux, VS Code, Visual Studio, PyCharm, IntelliJ, Eclipse, Unity