

Neil Gabrielson

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Education

Northeastern University

Boston, MA

Candidate for Bachelor of Science in Mathematics

Expected May 2027

Dean's List

4.0 GPA

Grad. Algebra I	Grad. Analysis I	Complex Analysis
Adv. Group Theory	Adv. Linear Algebra	Differential Equations
Probability & Statistics	Number Theory I	Dynamics, Chaos, & Fractals

Mathematical Heritage of Hungary

Budapest, Hungary

Dialogue of Civilizations

Summer 2025

- Collaborated with peers on Number Theory proofs and math puzzles for 30h/week of class
- Experienced Hungarian history/culture through guided tours and personal exploration

Cape Elizabeth High School

Cape Elizabeth, ME

High School Diploma

May 2024

Valedictorian

Experience

Northeastern University

Boston, MA

Undergraduate Researcher

May 2025 – Jun 2025

- Used pattern formation PDEs to model protein interactions on the cell membrane
- Co-authored a 30 page mathematical research paper with two collaborators
- Wrote Python and MATLAB scripts to simulate/analyze PDE systems, test parameters
- Reproduced results of previous models, proposed new model with biological motivation
- Delivered on simulation requests from an experimental biology team at Dartmouth

Fractal Plotter

Boston, MA

Personal Project — neilgabrielson.com/fractals

Summer 2025

- Interactive online tool demonstrating the relationship between Mandelbrot and Julia sets
- Includes 5 Mandelbrot variations with precise features for exploring function dynamics
- Utilizes JS canvases API and optimized escape time testing

Knack

Boston, MA

Peer Tutor

Spring 2025

- Helped peers grasp conceptual topics from Linear Algebra and Probability & Statistics
- Improved homework/test outcomes for students; 5 star average rating

Skills

Computer: LaTeX, MATLAB, Mathematica, Python, JavaScript, HTML/CSS, Git

Tools/Libraries: NumPy, SciPy, Matplotlib, Jupyter, Overleaf, VSCode

Math: PDEs, Real Analysis, Complex Analysis, Abstract Algebra, Linear Algebra

Languages: English, Spanish

Interests: Playing Guitar, Reading, Cooking, Visiting Art Museums