

Avery Powers

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EDUCATION

Massachusetts Institute of Technology, Cambridge, MA

Expected May 2030

PhD in **Operations Research** with **Retsef Levi** and **Ali Aouad**

Relevant Courses: **Intro to Mathematical Programming, Machine Learning, Discrete Probability and Stochastic Processes, Econometric Data Science**

Northwestern University, Evanston, IL

Jun 2025

Bachelor of Arts in **Mathematics** (with honors) and **Music** | GPA: **3.975/4.000**

Relevant Courses: **Intro to Optimization, Macroeconomics, Prob & Stats for Econometrics, Intro to Stats & Data Science, Abstract Algebra, Computer Programming, Real Analysis**

RESEARCH PROJECTS

Notes on the Orbit Method (Senior Thesis) | **Northwestern Univ. Math Department** *Sep 2024 - May 2025*

- Built a graduate-level understanding of the orbit method through independent reading
- Connected twice weekly with advisor to discuss progress, understanding, notes, and questions
- Developed original thesis paper and presentation reviewed by Northwestern Univ. Math Dept.

Coadjoint Orbits of Matrix Supergroups via Poisson Brackets | **Northwestern Univ.** *Jun 2024 - Aug 2024*

- Earned Northwestern Summer Undergraduate Research Grant through 2-page grant proposal
- Developed conceptual knowledge (e.g. superspaces, Poisson brackets) via self-guided reading
- Discussed progress, new findings, and upcoming plans with research advisor in weekly meetings
- Summarized and presented process and results in the form of a research report written in LaTeX

WORK EXPERIENCE

Undergraduate Researcher | **Northwestern Univ., Evanston, IL**

Jun 2024 - Aug 2024

- Funded research project as described above

Music Assistant | **Marriott Theatre, Lincolnshire, IL**

Jun 2024

- Organized task lists and musical materials; proposed and recorded changes to score of show

STEM Education Outreach Intern | **Learning Undeclared, Gaithersburg, MD**

Jun 2022 - Jul 2022

- Led STEM-related lessons and classroom activities for up to 36 middle school students per day
- Prepared, led, oversaw, and cleaned lab experiments to facilitate learning and ensure safety
- Supported students in various tasks such as performing calculations and using lab equipment

LEADERSHIP AND ACTIVITIES

Graduate Research Opportunities for Women Conference Attendee | **Columbia Univ.**

Sep 2024

- Attended lectures and panel discussions hosted by mathematicians at universities across the U.S.
- Interacted with professors and graduate students about mathematical research

Co-Music Director, Composer/Lyricist, Project Manager, etc. | **The Waa-Mu Show**

Jan 2022 - May 2025

- Create original musicals annually with 20+ person writing team; Project Manager for 2024-2025
- Lead team in creating original songs and teaching music to cast as 2024-2025 Co-Music Director
- Oversaw 7-person team in creating 25 new orchestrations as 2023-2024 Co-Lead Orchestrator
- Recruited and mentored 21 music team members as 2022-2023 Music Coordinator

SKILLS

Language: Intermediate Spanish, Beginner German

Computer: Proficiency in Microsoft Office, LaTeX; Familiarity with Python, R, MATLAB, GitHub