

EDUCATION

Rutgers University PhD in Mathematics	2023–Current
Massachusetts Institute of Technology B.S in Mathematics, Class of 2023, GPA: 5.0/5.0	2019–2023
Stuyvesant High School Class of 2019, GPA: 97.67/100	2015–2019

RESEARCH EXPERIENCE

Summer Program in Undergraduate Research (SPUR) at MIT	Summer 2022
– Project on irreducibility in algebraic and extremal combinatorics with Yuan Yao [2].	
Duluth REU	Summer 2021
– Project on dimensions of divisibility and multiset posets [3].	
Undergraduate Research	2020–2021
– Project on eigenvalue multiplicities of graphs, supervised by Prof. Yufei Zhao. [1].	

PUBLICATIONS

- [1] **M. Haiman**, C. Schildkraut, S. Zhang, and Y. Zhao, “Graphs with high second eigenvalue multiplicity”, *Bulletin of the London Mathematical Society*, 2022. eprint: <https://londmathsoc.onlinelibrary.wiley.com/doi/pdf/10.1112/blms.12647>.
- [2] **M. Haiman** and Y. Yao, “Irreducibility of Generalized Permutohedra, Supermodular Functions, and Balanced Multisets”, *arXiv preprint arXiv:2303.05751*, 2022.
- [3] **M. Haiman**, “The dimension of divisibility orders and multiset posets”, *Order*, 2023. doi: <https://doi.org/10.1007/s11083-023-09653-7>.

TEACHING

- **Head Teaching Assistant** at Math Olympiad Program Summer 2023
Taught classes on olympiad material for US and international high school students, directed other TAs
- **Teaching Assistant** at MIT 2022–2023
Taught recitations for Probability and Random Variables (18.600)
- **Teaching Assistant** at Math Olympiad Program Summer 2022
Taught classes on olympiad material for US high school students
- **Grader** at MIT Spring 2022
Algebraic Combinatorics (18.212)
- **Grader** at MIT Fall 2021
Graph Theory and Additive Combinatorics (18.225)
- **Instructor** at Ghana IMO January Camp January 2021
Taught classes on olympiad material for Ghana high school students
- **Math Team Captain** at Stuyvesant High School 2018–2019
Taught a daily math team class and organized practices for the team

AWARDS

- NSF Graduate Research Fellowship
- Hartley Rogers Jr. Prize at SPUR 2022
- Gold Medal (8th place internationally) at IMO 2019
- USAMO 2019 Winner
- Richard Rothenberg Memorial Award for highest honors in mathematics in Stuyvesant HS class of 2019

EXTRACURRICULAR ACTIVITIES

- HMMT Problem Czar 2019–2021
Organized problem writing for the November and February contests at HMMT.
- Olympiad Problem Writing 2019–Current
Wrote and reviewed problems for several math olympiads, including IMO, USA(J)MO, USA TST.
- Counselor at Canada/USA Mathcamp 2020
Worked at a summer camp for high schoolers; organized events, dealt with logistics, and taught a class.
- Tutored for Contest Math Tutoring 2018–2020
Tutored weekly one-on-one sessions over Skype through contestmathtutoring.com.

SKILLS

- **Languages:** English, Hungarian, Tamil, Spanish
- **Programming:** Mathematica, Python, Java, C