

Ilya Maier

imaier@princeton.edu — ilyamaier.github.io

Education

Princeton University

Ph.D. in Applied and Computational Mathematics (PACM) Expected May 2030
Advisor: Maria Chudnovsky
Research Interests: Structural Graph Theory, Graph Algorithms

M.S.E. in Computer Science May 2026
Thesis: *Induced Cycles of Many Lengths*
Advisor: Maria Chudnovsky

ETH Zurich August 2024

B.Sc. in Computer Science
Graduated with Distinction

Research Papers

1. “Finding Non-Bisimplicial Minimal Separators” (with M. Chudnovsky), *in preparation*
2. “On Induced Minor Obstructions to Bounded Treewidth” (with M. Chudnovsky and N. Trotignon), *in preparation*
3. “Induced Cycles of Many Lengths” (with M. Chudnovsky), *submitted*, [arXiv:2602.06874](https://arxiv.org/abs/2602.06874)

Teaching Experience

Teaching Assistant

Princeton University and ETH Zurich
Courses:

- COS 423 - Theory of Algorithms Spring 2026
- COS 330 - Great Ideas in Theoretical Computer Science Fall 2025
- COS 423 - Theory of Algorithms Spring 2025
- COS 240 - Reasoning about Computation Fall 2024
- Algorithms and Probability Spring 2024
- Algorithms and Probability Spring 2023
- Discrete Mathematics Fall 2022

Instructor 2023

Association of Computer Science Students (VIS), ETH Zurich

- Developed slides and exercises, and held two 20-hour exam-preparation workshops for *Algorithms and Probability* and *Discrete Math*.

Honors and Awards

Excellence in Teaching Award, Princeton Undergraduate Engineering Council 2026
Awarded to five teaching assistants in the School of Engineering each semester

DAAD Graduate Scholar, German Academic Exchange Service 2025 – 2026
Merit-based award for graduate studies abroad.

Teaching Award, Association of Computer Science Students (VIS), ETH Zurich 2023
Selected as the best TA for *Algorithms and Probability* among 20 TAs.

National Scholar, German National Academic Foundation 2022 – 2026
Awarded to the top 0.5% of German students for academic excellence and intellectual promise.

Leadership and Service

Teacher September 2025 – Present
Prison Teaching Initiative, Princeton University

- Taught a course on Digital Literacy and a course on Elementary Algebra at East Jersey State Prison, promoting equitable access to technical education.
- Developed exams, quizzes and handouts.

Resident Graduate Student August 2025 – May 2026
Butler College, Princeton University

- Provided mentorship and academic guidance to two groups of 12 undergraduate residents, fostering inclusive intellectual and social community life within Butler College.
- Coordinated and facilitated events that promote well-being, appreciation for diversity, and intellectual curiosity.

President of the Junior Committee September 2022 – September 2023
Association of Computer Science Students (VIS), ETH Zurich

- Organized freshmen welcome and orientation events for over 900 students.
- Led a team of 22 students organizing college taster days throughout the year.