

Darius Alizadeh

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PhD student in Mathematics focused on geometric group theory, especially hyperbolic and relatively hyperbolic groups.

EDUCATION

PhD in Pure Mathematics | June 2025

University of Illinois, Chicago | Chicago, IL | GPA: 4.0/4.0

Coursework: Algorithms, Foundations of Data Science, Algebraic Topology, Smooth Manifolds, Lie Groups, Real and Complex Analysis, Topics in Dynamics and Geometric Group Theory

Bachelor of Arts in Mathematics | December 2018

University of Colorado, Boulder | Boulder, CO | GPA: 3.9/4.0

RESEARCH

Combining Relatively Hyperbolic Groups over a Complex of Groups, 2025

TEACHING EXPERIENCE

Instructor of Record

UIC Young Scholars Program | Summer 2025, Summer 2023

MATH 294 Analysis Workshop | Fall 2024, Spring 2025

MATH 109 College Algebra Workshop | Fall 2022

Teaching Assistant

College Algebra | Spring 2022

Precalculus | Fall 2025, Fall 2021, Spring 2021

Calculus for Life Sciences | Fall 2021

Calculus II | Spring 2023

Calculus II | Spring 2024

RELATED EXPERIENCE

Data Science Intern

Abbvie Pharmaceuticals | Spring 2017 – Fall 2018

- Applied a variety of data science techniques to understand a large data set
- Independently researched novel methods for prediction of time series and applied them to industrial data
- Implemented machine learning models for improved predictive accuracy and qualitative understanding of data
- Documented work and results for future work on project

Teaching Assistant

University of Illinois, Chicago | Fall 2020 – present

- Fostered dynamic learning environment that encouraged students to actively engage and think critically about mathematics content
- Independently managed multiple classes to provide an organized and clear course experience
- Taught College Algebra, Precalculus, Calc I – III, and more.

Undergraduate Researcher

CU Boulder Math Department | July 2018

- Created Sage program to exhaustively search graphs for counterexample to conjecture
- Collaborated with other researchers as part of effective team
- Developed theoretical insights to speed up and simplify computation

- Presented results to department in seminar style talk

Private Tutor

Freelance | 2017 – 2021

- Helped a variety of students from high school to college level improve their grades and confidence
- Created material to improve student's understanding

Learning Assistant

Student Academic Success Center at CU Boulder | Spring 2017 – Fall 2018

- Adapted teaching style to communicate with diverse group of students from different backgrounds and different mathematical abilities
- Supported faculty and other LAs in classes as well as review sessions and office hours

OUTREACH AND SERVICE

Organizer for World of GroupCraft, an international marathon conference in geometric group theory | September 2025

Organizer of Graduate Geometry, Topology, and Dynamical Systems Seminar | Fall 2023, Spring 2025

Directed Reading Program Mentor | Fall 2024, Summer 2025

Instructor for Math Circles of Chicago at St Therese Chinese Catholic School | Spring 2025

Judge of QED, Middle and Highschool Math Fair organized by Math Circles of Chicago | December 2022

AWARDS AND EXTRACURRICULAR

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| ▪ INMAS Internship Program 2020 –2021 | ▪ Haller Mathematics Scholarship 2018 |
| ▪ Erdos Institute Data Science Project completed with Distinction, Fall 2024 | ▪ Math Honor Society Pi Mu Epsilon 2018 |
| | ▪ CU Dean's List 2018 |
| | ▪ Hale Esteemed Scholars Scholarship 2015–2018 |