

Ruoxi Li
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Thackeray Hall, Pittsburgh, PA

EDUCATION

2019–26 **Ph.D.**, University of Pittsburgh, (Advisor: [Prof. Roman Fedorov](#))
2016–18 **M.S.**, University of Illinois Urbana-Champaign
2012–16 **B.S.**, Nankai University

RESEARCH INTERESTS

My research focuses on algebraic geometry and representation theory. More specifically, I am interested in moduli stacks of Higgs bundles and bundles with connections, character varieties, and moduli spaces of quiver representations.

PUBLICATIONS AND PREPRINTS

2024 Explicit formulas for mixed Hodge polynomials of character varieties of nilpotent groups (with [Rahul Singh](#)). [arXiv: 2410.10008](#).
2025 Motivic classes of stacks in finite characteristic and applications to stacks of Higgs bundles. [arXiv: 2509.09861](#).

PROJECTS

2022– Motivic classes of stacks in finite characteristic and applications to stacks of bundles with connections (with [Roman Fedorov](#)).
2024– Motives of moduli spaces of stable quiver representations (with [Sergey Mozgovoy](#), [Markus Reineke](#) and [Rahul Singh](#)).

TALKS

08/2025 Motivic classes in finite characteristic with applications to Higgs bundles, [Workshop on Character Varieties and Higgs Bundles](#), University of Costa Rica. 10-minute Talk.
05/2025 Motivic classes of varieties and stacks with applications to Higgs bundles, [GTA Philadelphia](#), Temple University. 30-minute Talk.
03/2025 Motivic classes of varieties and stacks with applications to Higgs bundles, [Arithmetic Seminar](#), Binghamton University.
11/2024 Motivic classes of varieties and stacks with applications to Higgs bundles Part II, [Graduate Student Seminar](#), University of Pittsburgh.
10/2024 Motivic classes of varieties and stacks with applications to Higgs bundles, [BUGCAT Conference](#), Binghamton University. 20-minute Talk.
10/2024 Motivic classes of varieties and stacks with applications to Higgs bundles Part I, [Graduate Student Seminar](#), University of Pittsburgh.
09/2024 Motivic classes of varieties and stacks with applications to Higgs bundles, [Algebraic Groups and the Geometric Langlands Program Seminar](#), University of Pittsburgh.

POSTERS

- 08/2025 Motivic classes in finite characteristic with applications to Higgs bundles and bundles with connections, [Workshop on Character Varieties and Higgs Bundles](#), University of Costa Rica.
- 11/2024 Motivic classes in finite characteristic with applications to Higgs bundles and bundles with connections, [Western Algebraic Geometry Symposium](#), University of Arizona.
- 11/2024 Motivic classes in finite characteristic with applications to Higgs bundles and bundles with connections, [Algebraic Geometry Northeastern Series](#), Dartmouth College.
- 08/2024 Motivic classes of stacks in finite characteristic and applications to stacks of Higgs bundles and bundles with connections, [Richmond Geometry Meeting](#), Virginia Commonwealth University.

TEACHING EXPERIENCES

University of Pittsburgh

Instructor

MATH 0290 Differential Equations, SU 2024

Teaching Assistant

MATH 0120 Business Calculus, FA 2020, 2021, SU 2025
MATH 0220 Analytic Geometry & Calculus 1, SP 2021, 2022, 2024
MATH 0230 Analytic Geometry & Calculus 2, SP 2021, 2025, SU 2021, FA 2021, 2022
MATH 0413 Intro Theoretical Mathematics, SU 2021
MATH 0420 Intro Theory 1-Variable Calculus, SP 2023
MATH 0430 Intro Abstract Algebraic Systems, SP 2023, 2024

Grader

MATH 0290 Differential Equations, FA 2024
MATH 0400 Finite Mathematics, SP 2021
MATH 1020 Applied Elementary Number Theory, FA 2022, 2023
MATH 1050 Combinatorial Mathematics, FA 2022, 2023
MATH 1470 Partial Differential Equations 1, FA 2021

ACADEMIC SERVICE

2025 **Mentor**, [CMU-Pitt Directed Reading Program](#)
2024– **Referee**, [Pittsburgh Interdisciplinary Mathematics Review](#)

HONORS AND AWARDS

2019 Arts & Sciences Graduate Fellowship, University of Pittsburgh
2012 Freshman's Second Prize Scholarship, Nankai University

Last updated: September 15, 2025