

**Ruoxi Li**  
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Thackeray Hall, Pittsburgh, PA

## EDUCATION

2019–Present\*    **Ph.D.**, University of Pittsburgh (Advisor: [Prof. Roman Fedorov](#))  
2016–2018        **M.S.**, University of Illinois Urbana-Champaign  
2012–2016        **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. Recently, I have also been interested in invariant  $D$ -modules.

## PUBLICATIONS AND PREPRINTS

1. Explicit formulas for mixed Hodge polynomials of character varieties of nilpotent groups (with [Rahul Singh](#)). [arXiv: 2410.10008](#).
2. Motivic classes of stacks in finite characteristic and applications to stacks of Higgs bundles. [arXiv: 2509.09861](#).
3. Invariant algebraic  $D$ -modules on connected reductive groups (with [Rudrendra Kashyap](#)). [arXiv: 2601.10934](#).

## PROJECTS

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

## SEMINAR TALKS

- 11/2025    [M-Seminar](#), Kansas State University.
- 03/2025    [Arithmetic Seminar](#), Binghamton University.
- 11/2024    [Graduate Student Seminar](#), University of Pittsburgh.
- 10/2024    [Graduate Student Seminar](#), University of Pittsburgh.
- 09/2024    [Algebraic Groups and the Geometric Langlands Program Seminar](#), University of Pittsburgh.

## CONFERENCE TALKS (CONTRIBUTED)

- 08/2025    [Workshop on Character Varieties and Higgs Bundles](#), University of Costa Rica. 10-minute Talk and poster session.
- 05/2025    [GTA Philadelphia](#), Temple University. 30-minute Talk.
- 11/2024    [Western Algebraic Geometry Symposium](#), University of Arizona. Poster session.

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\* Expected 2026.

- 11/2024 [Algebraic Geometry Northeastern Series](#), Dartmouth College. Poster session.  
10/2024 [BUGCAT Conference](#), Binghamton University. 20-minute Talk.  
08/2024 [Richmond Geometry Meeting](#), Virginia Commonwealth University. Poster session.

## 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, SP 2026  
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
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