

**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 and character varieties. Recently, I am also interested in 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 and bundles with connections. In Preparation.

## Projects

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

## Talks

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. Poster Session and 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.  
11/2024    Motivic classes in finite characteristic with applications to Higgs bundles and bundles with connections, [Western Algebraic Geometry Symposium](#), University of Arizona. Poster Session.  
11/2024    Motivic classes in finite characteristic with applications to Higgs bundles and bundles with connections, [Algebraic Geometry Northeastern Series](#), Dartmouth College. Poster Session.

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\* Expected.

10/2024	Motivic classes of varieties and stacks with applications to Higgs bundles, <a href="#">BUGCAT Conference</a> , Binghamton University. 20-minute Talk.
10/2024	Motivic classes of varieties and stacks with applications to Higgs bundles Part I, <a href="#">Graduate Student Seminar</a> , University of Pittsburgh.
09/2024	Motivic classes of varieties and stacks with applications to Higgs bundles, <a href="#">Algebraic Groups and the Geometric Langlands Program Seminar</a> , University of Pittsburgh.
08/2024	Motivic classes of stacks in finite characteristic and applications to stacks of Higgs bundles and bundles with connections, <a href="#">Richmond Geometry Meeting</a> , 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  
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

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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Last updated: August 9, 2025