

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

## Education

2019–25\* **Ph.D.**, University of Pittsburgh, (Advisor: [Prof. Roman Fedorov](#))  
2016–18 **M.S.**, University of Illinois Urbana-Champaign  
2012–16 **B.Sc.** Nankai University

## Research Interests

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

## Publications and preprints

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

## Projects

2022– (With [Prof. Roman Fedorov](#)), Motivic classes of stacks in finite characteristic and applications to stacks of Higgs bundles and bundles with connections.  
2024– (With [Dr. Rahul Singh](#)), Motivic classes of character varieties and character stacks.

## Presentations

Nov. 2024\* Motivic classes of varieties and stacks with applications to Higgs bundles Part II, [Graduate Student Seminar](#), Pittsburgh, PA, November 22th, 2024.  
Nov. 2024\* Motivic classes in finite characteristic with applications to Higgs bundles and bundles with connections, [Western Algebraic Geometry Symposium](#), Tucson, AZ, November 16–17th, 2024. Poster Session.  
Nov. 2024\* Motivic classes in finite characteristic with applications to Higgs bundles and bundles with connections, [Algebraic Geometry Northeastern Series](#), Hanover, NH, November 8–10th, 2024. Poster Session.  
Oct. 2024 Motivic classes of varieties and stacks with applications to Higgs bundles, [BUGCAT Conference](#), Binghamton, NY, October 26–27th, 2024. 20 mins Talk.  
Oct. 2024 Motivic classes of varieties and stacks with applications to Higgs bundles Part I, [Graduate Student Seminar](#), Pittsburgh, PA, October 18th, 2024.  
Sept. 2024 Motivic classes of varieties and stacks with applications to Higgs bundles, [Algebraic Groups and the Geometric Langlands Program Seminar](#), Pittsburgh, PA, September 24th, 2024.

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\* Expected.

- Aug. 2024      Motivic classes of stacks in finite characteristic and applications to stacks of Higgs bundles and bundles with connections, [Richmond Geometry Meeting](#), Richmond, VA, August 12-14th, 2024. Poster Session.
- July 2020      Moduli of Vector Bundles, Online Seminar by students, July-November, 2020.

## Teaching Experiences

### University of Pittsburgh

#### Instructor

MATH 0290      Differential Equations, SU 2024

#### Teaching Assistant

MATH 0120      Business Calculus, FA 2020, 2021  
 MATH 0220      Analytic Geometry & Calculus 1, SP 2021, 2022, 2024  
 MATH 0230      Analytic Geometry & Calculus 2, SP 2021, 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: October 31, 2024