

## Ruoxi Li

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<https://ruoxi-li0351.github.io/>

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.S.**, 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.

### Talks and Presentations

- Nov. 2024 Motivic classes of varieties and stacks with applications to Higgs bundles Part II, [Graduate Student Seminar](#), Pittsburgh, PA, November 22nd, 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: November 7, 2024