SHIYUE **LI**

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My current research interest is to study enumerative and intersection problems in algebraic geometry and arithmetic geometry, using techniques from combinatorics and representation theory.

Education

2019- **Brown University**, PhD in progress, advised by Melody Chan
2017-2019 **Yale University**, MSc in Mathematics
2013-2017 **Harvey Mudd College**, B.S. in Mathematics with Honors and Distinction

Research

In preparation — **Chow Ring of Heavy/Light Hassett Spaces via Tropical Geometry, 2019,**
- Joint work with Siddarth Kannan and Dagan Karp

Senior thesis — **Tropical Derivation of Cohomology Ring of Heavy/Light Hassett Spaces, 2017,**
- Advisor : Dagan Karp, Reader : Dhruv Ranganathan.

Awards

2018-2019 **Robert Willets Carle Scholarship**, Yale University
2017-2018 **Kenneth and Mary Wang Graduate Fellowship**, Yale University
2017 **Lang Fellowship**, Yale University Department of Mathematics
2013-2017 **Harvey S. Mudd Merit Award**, Harvey Mudd College, awarded to students who demonstrate superior academic achievement and ability to contribute to the College community
2013-2017 **Yu Yuen Kit So International Scholarship**, Harvey Mudd College, awarded to one international recipient for each entering class based on superior academic performance as shown in the application for admission
2013 **China National Linguistics Olympiad, Individual 3rd Place**
2013 **China National Linguistics Olympiad, Team 2nd Place**

Talks

Feb 2019 **Moduli Space of Linear Series with Imposed Ramification**, Yale University
Feb 2019 **Moduli Space of Linear Series with Imposed Ramification**, Brown University
October 2018 **Schubert Calculus and Young Tableaux**, Yale University
November 2018 **Meet the Matroids**, Yale University
May 2017 **Tropical Derivation of Cohomology Ring of Heavy/Light Hassett Spaces**, Harvey Mudd College

Teaching

Summer 2019, Summer 2018 — **Canada/USA Mathcamp, Mentor,**
- In 2019, taught Introduction to Group Theory, Young tableaux and Representation Theory, Young tableaux and Combinatorics, Young tabelaux and Probability to talented high school students.
- In 2018, taught Algebraic Number Theory, Geometric Group Theory, Modular Forms, Tropical Plane Curves and Rational Points on Elliptic Curves to talented high school students.

2017-2019 — **Yale University, Teaching Assistant,**
- Math 225 Linear Algebra and Matrix Theory, Fall 2018
- Math 112 Calculus, Spring 2018

2014-2017 | Harvey Mudd College, Teaching Assistant,
- Math 147 Topology, Spring 2017
- Math 132 Anaysis 2, Fall 2016
- Math 171 Abstract Algebra, Fall 2016
- Physics 51 Electricity Theory and Optics, Fall 2015
- Physics 23 Special Relativity, Fall 2015
- Physics 24 Mechanics, Spring 2015
- Math 30 Calculus, Fall 2014,
- Math 35 Statistics and Probability, Fall 2014

Mentoring

Summer 2019
Summer 2018 | Canada/USA Mathcamp Reading Projects, Mentor,
- Enumerative Geometry. Mentees : Alice Jenkins, Jeremy Zhou.
- Primes of the Form $x^2 + ny^2$. Adivisee : Reed Jacobs.
- Schubert Calculus. Mentees : Simran Khunger, Rupert Li.

2018 | Women in Science at Yale, Graduate Mentor,
- Undergraduate mentee : Alara Değirmenci

Fall 2018 | Brown Math Directed Reading Project, Graduate Mentor,
- Foundations of Algebraic Geometry. Mentees : Dominick Joo, Elliott Lehrer, Joshua Lebo.

Other Professional Experience

Summer 2016
Intern | Google Research and Machine Intelligence, Mountain View, California,
- Advisors : Caroline Pantofaru, Malcolm Slaney.
- Research on Machine Learning algorithms using TensorFlow to solve an audio/video syncing problem involving computer vision and human saliency event detection.

Summer 2014
Researcher | Howard Hughes Medical Institute Undergraduate Research, Claremont, California,
- Mathematical Modeling on DNA Segregation. Implemented Gillespie algorithms and Next Sub-volume Method to simulate diffusion and reactions of ParA and ParB proteins

Summer 2012 | Summer Science Program, Socorro, New Mexico,
- Research on orbit determination of solar-system body. Implemented programs in Python using iterative Gaussian method to determine the orbit elements based on the observation data of Asteroid 1998QS52 in Etscorn Observatory over six weeks
- Paper and results archived in Harvard-Smithsonian Center for Astrophysics.

Service

2019-2020 **American Mathematical Society Graduate Conferences**, Coorganizer
2019 **Brown Math Directed Reading Program**, Coorganizer
2018 **Intersections : Women and Gender Minority Groups in Mathematics at Yale**, Coorganizer
2018 **Yale Math Directed Reading Program**, Organizer
2018-2019 **Yale Graduate and Professional Student Senate**, Senator
2016-2017 **Harvey Mudd College Math Club**, President
2015-2016 **Caltech Harvey Mudd Math Competition**, Organizer

</> Languages

Mandarin	●●●●●
English	●●●●●
French	●●●○○
C++	●●●●○
Python	●●●●●

Fun Stuff

Piano	studied with Gayle Blankenberg (Los Angeles), Carol Morgan (Vienna), Fantee Jones (Yale), Maxwell Foster (Yale)
Classical Guitar	studied with Jack Sanders (Los Angeles) ; member of Pomona College Guitar Quartet
Go	amateur 3 Dan at age of 10
Sports	running, rock climbing, cycling