

Shiyue Li

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RESEARCH INTERESTS

Algebraic geometry, arithmetic geometry, tropical geometry and algorithms.

EDUCATION

Yale University 2017 - Present
PhD Student in Mathematics

Harvey Mudd College 2013 - 2017
B.S. Mathematics, Distinction and Honors in Mathematics

High School Affiliated to Nanjing Normal University 2010 - 2013

EXPERIENCE

Mentor Summer 2018
Canada/USA Mathcamp

- Taught four week-long classes on algebraic number theory, modular forms, group actions on trees and rational points on elliptic curves for talented high school students.
- Engaged in various activity planning.

Software Engineer Summer 2016
Google Research and Machine Intelligence, Alphabet Inc., Mountain View, CA
Advisor: Caroline Pantofaru, Malcolm Slaney

- Conducted research on machine learning algorithms with TensorFlow to solve an audio/video syncing problem involving computer vision and human saliency event detection.
- Implemented TensorFlow models and data processing pipelines in C++, Python that run on large-scale audio and video data.

Senior Thesis Student 2016 - 2017
Tropical Derivation of Cohomology Ring for Heavey/light Hassett Spaces
Advisor: Dagan Karp, Dhruv Ranganathan

Research Assistant 2015 - 2016
Advisor: Stephan Garcia

- Studied methods to differentiate cospectral and non-isomorphic graphs with matrix analysis.
- Studied characteristics of similarity and unitary similarity classes of partial isometry matrices.
- Studied on interlacing and perturbation of singular values and eigenvalues of complex symmetric matrices with min-max principles, Autonne-Tagaki factorization and Courant-Fischer formula.

Research Assistant Summer 2014
Advisor: Blerta Shtylla

- Studied mathematical modeling on DNA segregation.

- Implemented Gillespie algorithms and Next Sub-volume Method to simulate diffusion and reactions.

Student at Summer Science Program

Summer 2012

- 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 Etsorn Observatory over six weeks. Paper archived in Harvard-Smithsonian Center for Astrophysics

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| AWARDS HONORS | Yale University Kenneth and Mary Wang Graduate Fellowship | 2017 |
| | Yale University Mathematics Department Lang Fellowship | 2017 |
| | SIAM Outstanding Student Chapter Leadership Award | 2017 |
| | Harvey Mudd Merit Student Scholarship | 2013 - 2017 |
| | Harvey Mudd International Student Scholarship | 2013 - 2017 |
| | Chinese National Linguistics Olympiad, <i>Individual 3rd Place</i> | 2013 |
| | Chinese National Linguistics Olympiad, <i>Team 2nd Place</i> | 2013 |
| LEADERSHIP | Harvey Mudd College Math Club, <i>President</i> | 2015 - 2016 |
| | Harvey Mudd - Caltech Math Competition, <i>Co-organizer</i> | 2015 - 2016 |
| EXTRA- CURRICULAR ACTIVITIES | Pomona College Classical Guitar Quartet | 2014 - 2016 |
| | IES Vienna Music Performance and History Program | Summer 2015 |
| | CIEE French Language Program in Paris | Summer 2015 |
| LANGUAGES | Chinese Mandarin | Native |
| | English | Fluent |
| | French | Conversational |
| HOBBIES | Piano | Teachers: Gayle Blankenberg, Carol Morgen, Fantee Jones |
| | Classical Guitar | Teachers: Jintao Jiang, Lei Zhang, Jack Sanders |
| | Puzzle Hunts | |
| | • Google Games 2016 Los Angeles, 7th Place | |
| | • Facebook Puzzlehunt 2017 at Harvey Mudd, 3rd Place | |
| | • Microsoft, Puzzle Challenge 2017, Los Angeles 2nd Place, USA 25th | |
| | • MIT Mystery Hunt 2018, Donnor Party | |
| | Go | Achieved Chinese 3 Dan at Age of 9 |