
Louisiana State University,
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Academic Appointments

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- Postdoctoral Researcher in Mathematics August 2025–Present
[Louisiana State University](#), Department of Mathematics
– Advisor: Rui Han.

Education

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- Ph.D. in Mathematics August 2019 - July 2025
[Georgia Institute of Technology](#)
- Supervised by Dr. Michael Lacey
 - M.Sc. in Mathematics August 2016 - July 2019
[The University of Texas at Dallas](#)
- Supervised by Dr. Yifei Lou
 - M.Sc. in Mathematics September 2013 - January 2016
[Sharif University of Technology](#)
- Supervised by Dr. A. Daneshgar
 - B.Sc in Applied Mathematics September 2009 - 2013
[Shiraz University](#)

Research Interests

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- Discrete Harmonic Analysis
 - Number Theory
 - Dynamical Systems

Publications

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1. *A Density Theorem for Higher Order Sums of Prime Numbers*, with Michael T Lacey, Hamed Mousavi, and Manasa N Vempati, November 2024, [arXiv](#)
 2. *Averages over the Gaussian Primes: Goldbach's Conjecture and Improving Estimates*, with Christina Giannitsi, Ben Krause, Michael T. Lacey, and Hamed Mousavi, (Submitted), October 2023, [arXiv](#)
 3. *Endpoint ℓ^r improving estimates for Prime averages*, with Michael T. Lacey and Hamed Mousavi, Published at *Mathematical Research Letters*, May 2023, at [arXiv](#), [Journal](#)
 4. *Improving and Maximal Inequalities for Primes in Progressions*, with Christina Giannitsi, Michael T. Lacey, and Hamed Mousavi, Published at *Banach Journal of Mathematical Analysis*, March 2022, [arXiv](#), [Journal](#)
 5. *A Lifted ℓ_1 Framework for Sparse Recovery*, with Sung Ha Kang and Yifei Lou, Published at *Information and Inference: A Journal of the IMA*, April 2024, [arXiv](#), [Journal](#)
 6. *Accelerated Schemes for the $L1/L2$ Minimization*, with Chao Wang, Ming Yan, and Yifei Lou, Published at *IEEE Transactions on Signal Processing*, Volume 68, Pages 2660-2669, April 2020, [arXiv](#), [Journal](#)

7. *A Scale Invariant Approach for Sparse Signal Recovery*, with Chao Wang, Hongbo Dong, and Yifei Lou, Published at *SIAM Journal on Scientific Computing*, Volume 41, Issue 6, Pages A3649-A3672, August 2019, [arXiv](#), [Journal](#)

Selected Talks

- **A Density Theorem for Higher Order Sums of Prime Numbers**, Talk at [Southern Regional Number Theory Conference 2025](#), March 2025, at Louisiana State University, Baton Rouge, LA.
- **Average over the Gaussian Primes: Improving Estimates and Goldbach's Conjecture**, Talk at Louisiana State University, Feb 2024, Online Seminar.
- **Explicit Construction of RIP Matrices and Related Problems**, Talk at [Heat Flow, two-point inequalities, and beyond Summer School](#), Oct 2023, Online Workshop.
- **Endpoint ℓ_p Improving Estimates for Prime Averages**, Talk at [Combinatorial and Additive Number Theory Seminar \(CANT\)](#), May 2021, Online Conference.
- **A Scale Invariant Approach for Sparse Signal Recovery**, Poster Presentation, The University of Texas at Dallas, USA, Spring 2019
- **Training Neural Networks**, Talk in the Image and Signal Analysis Journal Club, The University of Texas at Dallas, USA, Spring 2019
- **Sparse Signal Recovery Using ℓ_1/ℓ_2** , Talk in the Image and Signal Analysis Journal Club, The University of Texas at Dallas, USA, Fall 2018
- **On Logistic Regression**, Talk in the Image and Signal Analysis Journal Club, The University of Texas at Dallas, USA, Fall 2017
- **Fast Single Image Super-Resolution Using Sparse Gaussian Process Regression**, Talk in the Image and Signal Analysis Journal Club, The University of Texas at Dallas, USA, Spring 2017
- **Hadamard Matrices and Latin Square**, Talk at the Sharif University of Technology, Iran , Spring 2015
- **An Introduction to Deep Learning**, Talk at the Sharif University of Technology, Iran, Fall 2014

Honors

- Research Assistant supported by NSF Grant (M, Lacey. DMS-1949206), Georgia Institute of Technology, USA, Summer 2021.
- Research prize supported by NSF Grant (M, Lacey), \$2500, Georgia Institute of Technology, Spring 2021
- David L. Brown Fellowship Award, \$500, Georgia Institute of Technology, USA, April 2020
- Research Assistant supported by NSF Grant (Yifei Lou. DMS-1522786), The University of Texas at Dallas, 2017-2018.
- Third Prize (Bronze Medal) in 20th International Mathematics Competition for University Students, American University in Bulgaria, Blagoevgrad, Bulgaria, August 2013
- Gold Medal in 37th Iran Mathematics Competition, Semnan University, Semnan, Iran, February 2013
- 5th Place in 18th Iran Mathematics Olympiad for University Student, Tarbiat Modares University, Tehran, Iran, July 2013
- 13th Place (27th team) in 37th ACM International Collegiate Programming Contest (ACM-ICPC) Asia Region - Tehran Site, Sharif University of Technology, Tehran, Iran, December 2012
- 2nd Place in Shiraz ACM-ICPC Contest, Shiraz University, Shiraz, Iran, October 2012

Experiences & Activities

- Research Assistance, Supervisor: Dr. Michael Lacey, Georgia Institute of Technology, 2023-2024
- Teaching Assistance, Georgia Institute of Technology, 2019-current
- Research Assistance, Supervisor: Dr. Yifei Lou, The University of Texas at Dallas, 2017-2018
- Teaching Assistance, The University of Texas at Dallas, 2016-2017, 2018-2019

- Student Worker, The University of Texas at Dallas, Summer 2019, Summer 2018
- Active Mentor in the Directed Research Program (DRP), the University of Texas at Dallas, Fall 2018, Spring 2019, Fall 2019.
- Collaboration with “Kolbeh Afarinesh Fekr” Company, Games and Mathematics Exhibitions, Tehran, Iran, 2015
- Instructor of Mathematics Olympiad in High Schools, Shiraz, Iran, 2012
- Coach of the Shiraz University Team in 39th Iranian Mathematics Competition, Yazd University, Yazd, Iran, May 2015
- Cooperate with Mathematics Society in Shiraz University, Shiraz, Iran, 2012
- Teaching Assistance, Shiraz University, 2011-2012, 2012-2013
- Design and Implementation of “Storage System of a Market” (Using Python)
- Implementation of Snake Game (Pygame and OpenGL C++)

Teaching Experiences

- MATH 2057, Multivariable Calculus, Fall 2025 and Spring 2026, Louisiana State University
- Math 1554, Linear Algebra, Fall 2023, Georgia Institute of Technology
- Math 2551, Multivariable Calculus, Summer 2023, Georgia Institute of Technology

TA Experiences

- Georgia Institute of Technology (Fall 2019-present):
 - Differential Equations, Algebra I,II, Multivariable Calculus.
- University of Texas at Dallas (Fall 2016-Summer 2019):
 - Topology, Differential Calculus, Applied Calculus I,II, Calculus I,II.
- Shiraz University (Fall 2010-Spring 2013):
 - Foundation of Geometry, Linear algebra I, Computer Foundation and Programming, Elementary Matrix and Linear Algebra, Foundation of Mathematics.

Computer Skills

- C/C++, Python, MATLAB, R, Mathematica

Membership

- Member of American Mathematics Society, 2019-present
- Member of Organizing Committee, Workshop on Recent Developments on Mathematical/Statistical approaches in *Data Science* (MSDAS), Department of Mathematical Sciences, The University of Texas at Dallas, May 31-Jun 2, 2019 [link](#)
- Member of Image and Signal Analysis Journal Club, UTD, 2016-2019