

# Leticia Mattos Da Silva

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## Education

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Massachusetts Institute of Technology	Sept. 2021 – <i>present</i>
Ph.D. in Computer Science, advised by Justin Solomon	
Massachusetts Institute of Technology	June 2023
S.M. in Computer Science, advised by Justin Solomon	
University of California, Los Angeles	March 2021
B.S. in Mathematics <i>cum laude</i>	

## Research Positions

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Guest Researcher	Aug. 2024 – March 2025
Flatiron Institute, Simons Foundation, New York, NY	
Pre-Doctoral Researcher	May – Aug. 2024
Flatiron Institute, Simons Foundation, New York, NY	
Research Scientist Intern	May – Aug. 2022
Adobe Inc., San Jose, CA (Remote)	
Research Intern	July – Aug. 2021
Fields Institute for Research in Mathematical Sciences, Toronto, ON (Remote)	
Research Intern	July – Aug. 2020
Fields Institute for Research in Mathematical Sciences, Toronto, ON (Remote)	
Student Researcher	June – Aug. 2019
SMALL Research Experience for Undergraduates, Williamstown, MA	

## Honors and Awards

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WiGRAPH Rising Stars in Computer Graphics	2025
Oberwolfach Leibniz Graduate Student (OWLG)	2025
MathWorks Engineering Fellowship	2024
EECS MathWorks Fellowship	2023
Schwarzman College of Computing Fellowship funded by Google	2022
Google Lime Scholarship <i>semi-finalist</i>	2022
Distinguished Graduate Fellowship in Electrical Engineering and Computer Science	2021
Will Rogers Memorial Scholarship	2021
De Anza Physical Sciences, Mathematics, and Engineering Scholarship	2017

## Publications

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4. [Variational Elastodynamic Simulation](#) 2025  
Leticia Mattos Da Silva, Silvia Sellán, Natalia Pacheco-Tallaj, Justin Solomon  
ACM SIGGRAPH Conference Papers '25
3. [Mirror Bridges Between Probability Measures](#) 2025  
Leticia Mattos Da Silva, Silvia Sellán, Francisco Vargas, Justin Solomon  
Under Peer Review
2. [A Framework for Solving Parabolic Partial Differential Equations on Discrete Domains](#) 2024  
Leticia Mattos Da Silva, Oded Stein, Justin Solomon  
ACM Transactions on Graphics
1. [Breaking Good: Fracture Modes for Realtime Destruction](#) 2022  
Silvia Sellán, Jack Luong, Leticia Mattos Da Silva, Aravind Ramakrishnan, Yuchuan Yang, Alec Jacobson  
ACM Transactions on Graphics

## Invited Talks

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| Title TBC  | April 2025                    |
| Visual Computing Seminar, MIT  | <i>postponed to Fall 2025</i> |
| A Framework for Solving Parabolic PDE on Discrete Domains                                  | March 2025                    |
| Visgraf Seminar, IMPA — Instituto de Matemática Pura e Aplicada, <a href="#">Recording</a> |                               |
| Tackling Nonlinear and Nonconvex Challenges with Geometric Algorithms                      | Feb. 2025                     |
| Computer Graphics Seminar, ISTA, <i>hosted by Samara Ren</i>                               |                               |
| Geometric Algorithms, Stochasticity and the Fokker-Planck Equation                         | Feb. 2025                     |
| Oberwolfach Workshop <i>Mathematical Imaging and Surface Processing</i>                    |                               |
| The Differential Equations Multiverse: From PDE to SDE in Computer Graphics                | Nov. 2024                     |
| Computational Science & Engineering Community Seminar, MIT                                 |                               |
| Towards Broader Parabolic PDE Solvers in Computer Graphics                                 | Sept. 2024                    |
| PAB Seminar, The University of Edinburgh, <i>hosted by Amir Vaxman</i>                     |                               |
| An Iterative High-Order Method for PDE on Moving Surfaces                                  | Aug. 2024                     |
| Geometric Computing Lab, New York University, <i>hosted by Daniele Panozzo</i>             |                               |
| Variational Characterizations of Nonlinear PDE on Geometric Domains                        | May 2024                      |
| The Scientific AI Group, University of Texas at Austin, <i>hosted by Richard Tsai</i>      |                               |

## Contributed Talks

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| Variational Elastodynamic Simulation                                  | Aug. 2025 |
| SIGGRAPH, Vancouver, BC, Canada                                       |           |
| A Framework for Solving Parabolic PDE on Discrete Domains             | Nov. 2024 |
| 31st Annual Fall Workshop on Computational Geometry, Tufts University |           |
| A Framework for Solving Parabolic PDE on Discrete Domains             | July 2024 |
| SIGGRAPH, Denver, CO  |           |
| Log of Heat Equation  | Nov. 2021 |
| Graduate Women in Course 6 Research Summit, MIT                       |           |

Fracture Harmonics	May 2021
Women in Math Research Night, University of California, Los Angeles	
When Bands Play in Random Matrix Theory	Aug. 2019
Young Mathematicians Conference, Columbus, OH, with Charles Devlin VI	

## Other Presentations

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Convex Relaxation Strategies for Graphics and Geometry Processing	July 2025
<i>Tutorial Course</i> , Eurographics Symposium on Geometry Processing, Bilbao, Spain	
Perron's Method for the Landau Equation	Sept. 2024
<i>Poster</i> , ICMS Workshop, Edinburgh, UK	
An Iterative High-Order Method for PDE on Moving Surfaces	Aug. 2024
<i>Poster</i> , Flatiron Institute, Simons Foundation, New York, NY	
Solving Parabolic PDE with MATLAB	April 2024
<i>Poster</i> , MathWorks Day, MIT	
Solving Parabolic PDE on Discrete Domains	March 2024
<i>Poster</i> , ICERM Workshop <i>PDEs and Geometry: Numerical Aspects</i> , Brown University	

## Academic Service

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Member of the Graduate Student Advisory Group	Sept. 2024 – <i>present</i>
School of Engineering, MIT	
Co-Organizer of the <a href="#">New England Symposium on Graphics</a>	April 2025
MIT	
Student Mentor for the Graduate Assistance Application Program (GAAP)	Fall 2021, 2022, 2024
EECS Department, MIT	
Organizer of Special Session on Graduate Admissions	Aug. 2021, 2023, 2024
Summer Geometry Initiative, MIT	
Organizer of "EECS Culture: Today & Tomorrow"	March 2024
Visit Days, EECS Department, MIT	
Graduate Applications Reviewer	Jan. 2024
EECS Department, MIT	
Executive Member of Diversity, Equity, and Inclusion	Jan. 2023 – Dec. 2023
EECS Graduate Student Association, MIT	
Volunteer for Graduate Recruitment Effort	Nov. 2023
The Society of Hispanic Engineers (SHPE) National Convention, Salt Lake City, UT	
Disability Justice Council Representative	Sept. 2021 – June 2023
Graduate Student Council, MIT	
Executive Member of New Student Orientation	Jan. 2022 – Dec. 2022
EECS Graduate Student Association, MIT	
Student Volunteer	July 2021
Eurographics/ACM SIGGRAPH Symposium on Geometry Processing (SGP)	

Co-organizer of Outreach Program <i>Noches de Ciencias</i> Society of Latino Engineers and Scientists, University of California, Los Angeles	Sept. 2019 – March 2020
Co-organizer of Tutor Training Workshops Math Performance Success Program, De Anza College	Sept. 2017 – June 2018

## Mentoring

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Ryan Dong, Undergraduate Researcher, UROP, MIT	Spring 2025
Ayyoob Berhane, Undergraduate Researcher, SuperUROP Scholar, MIT	2024 – 2025 AY
Akshata Tiwari, Undergraduate Researcher, UROP, MIT	Jan. 2024
Francisco Unai Caja López, Summer Geometry Institute Fellow	Summer 2023
Anna Cole Percy, Summer Geometry Institute Fellow	Summer 2023
Matheus da Silva Araujo, Summer Geometry Institute Fellow	Summer 2023
Hossam Mohamed Saeed Gize, Summer Geometry Institute Fellow	Summer 2023
Dora Zhao, Graduate Application Mentee, <i>now at Stanford</i>	Fall 2022
Olga Guţan, Graduate Application Mentee, <i>now at CMU</i>	Fall 2021

## Teaching Positions

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Teaching Assistant <i>Applied Numerical Algorithms</i> , MIT	Fall 2025
Teaching Assistant <i>Progressive Mesh Compression</i> , Summer Geometry Institute, MIT, <i>supervised by Paul Kry</i>	Summer 2023
Instructor <i>First-Year Engineering Transition Bridge: Calculus</i> , University of California, Los Angeles	Summer 2019, 2020
Teaching Assistant <i>Introduction to Engineering Disciplines</i> , University of California, Los Angeles	Fall 2019
Teaching Assistant <i>Intermediate Algebra, Precalculus, Integrated Statistics</i> , De Anza College	Fall 2016 – Spring 2018