

Ricardo Gloria-Picazzo

 ricglo | ragloria@cougarnet.uh.edu | www.math.uh.edu/~ragloria |  ricGLO

Education -----

University of Houston - PhD in Mathematics

Houston, USA, January 2024 - present

- Advisor: Dr. Yingying Wu
- Research Assistant position: January 2024 - present.
- Topics: Differential Geometry, Discrete Differential Geometry, Machine Learning, Geometry Processing and Discrete Exterior Calculus.

University of Guanajuato / CIMAT* - BS in Mathematical Computing

Guanajuato, Mexico, August 2019 - December 2023

*CIMAT: Mathematics Research Center.

- Cumulative GPA: 9.48 out of 10.

Research and Teaching Positions -----

Teacher Assistant - University of Houston

August 2024 - present

- Graded homework assignments, hosted office hours for questions and hosted “Calculus Labs”:
 - Linear Algebra and Multivariate Calculus (Spring 2025),
 - Transition to Advanced Mathematics (Fall 2024).

Research Assistant - University of Houston

January 2024 - June 2024

- Member of Dr. Wu’s research group. Worked on the *Laplace-Beltrami spectra prediction through Deep Learning models* project and *Spectra of Hodge Laplacians for Surface Classifications* (paper submitted).

Teacher Assistant - University of Guanajuato / CIMAT

- Graded homework assignments and hosted weekly sessions to discuss the content:
 - Discrete Differential Geometry (*Aug-Dec 2023*),
 - Partial Differential Equations (*Jan-May 2023*),
 - Introduction to Computer Science (*Aug-Dec 2022*),
 - Linear Algebra I (*Jan-May 2022*),
 - Linear Algebra for Computer Science (*Aug-Dec 2021*).

Projects and Research -----

Summer Geometry Initiative 2023 Fellow - Massachusetts Institute of Technology

Remote - Summer 2023

- Attended hands-on tutorials introducing the theory and practice of geometry processing.
- Worked on research projects led by faculty and research scientists in the discipline:
 - <https://summergeometry.org/sgi2023/geometric-surface-characterization/>, mentored by Dr. Yingying Wu.

- <https://summergeometry.org/sgi2023/intrinsic-mollification/> Intrinsic Mollification, mentored by Dr. Keenan Crane.
- Attended talks and other sessions led by visiting researchers.

Discrete Exterior Calculus - University of Guanajuato

Guanajuato, Mexico - Fall 2022

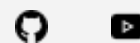
- Developed a project intended for a Partial Differential Equations course in which an introduction to basic concepts to Discrete Exterior Calculus was presented. Theoretical aspects were widely explained through drawings, figures and examples: <https://www.math.uh.edu/~ragloria/files/DEC-EDP.pdf>
- Presented at "Student's Junior Seminar" - University of Guanajuato (April 26, 2023).

Big Data Summer Institute 2022 Fellow - University of Michigan

Ann Arbor, USA - Summer 2022

- Participated in the six weeks interdisciplinary training and research SIBS program in biostatistics that introduces undergraduate students to the intersection of big data and human health.
- In addition to Machine Learning research about explainability of Deep Neural Network for Tumor Segmentation, I attended daily lectures on statistics, biostatistics, and big data.

Computational Geometry - University of Guanajuato



Guanajuato, Mexico - Fall 2021

- Implemented Computational Geometry algorithms animated with manim: Quick Hull, Graham Scan, Art Gallery problem and Voronoi Diagram.
- Click on GitHub and Youtube logos above for code and animations.

Conferences, Schools and Events -----

Interactions of Statistics and Geometry (ISAG) II - National University of Singapore

Singapore - October 14-25, 2024

- Engaged in daily seminars and lectures delivered by leading experts in the field.
- Travel funded by the National University of Singapore.

School of Mathematics of Latin America and the Caribbean 2023

Morelia, Mexico - June 26-30, 2023

- Attended daily talks and participated in courses: "Percolation on finite and infinite graphs" and "Applied Mathematics to Data Genomic Analysis"

School of Topology and Differential Geometry 2023 - CIMAT

Guanajuato, Mexico - June 5-9, 2023

- Attended daily talks and participated in courses: "3-manifold Topology" and "Differential Geometry of plane curves".

Service -----

Writing workshop - University of Guanajuato

August - December 2021

- Hosted two sessions per month to practice math writing skills and to learn how to structure and write proofs. Writing workshop was aimed at first year students.

Mathematical Olympiads Coach - Mexican Mathematical Olympiad

- Coach and committee member in Mexican Mathematical Olympiad for Basic Education in Guanajuato (*August 2019 - June 2021*).
- Coach in the Mexican Mathematical Olympiad in San Luis Potosi (*June 2019 - July 2020*).

Private Mathematics Tutor

January 2020 - present

- Successfully worked on one-to-one sessions with a wide variety of students from different backgrounds, levels and ages.

Honors and Awards -----

- Award for the highest grades - University of Guanajuato (*Mar 2020, Dec 2022 and 2023*).
- Academic Scholarship - University of Guanajuato / CIMAT (*January 2020 - Present*)
- Graduated with honors from High School - Tecnológico de Monterrey (*May 2019*).
- High School Excellence Scholarship - Tecnológico de Monterrey (*Aug 2016 - May 2019*).

Skills and Certifications -----

Software and Programming:

- C/C++, Python, scikit-learn, C#, Pandas, Office, Linux, LaTeX, TensorFlow, Keras, R.
- Web Programming, Data Structures, Algorithms, Machine Learning, Deep Learning, Graphs, String Processing, Computational Geometry, Problem Solving Paradigms.

Languages:

- Spanish (Native), English (C1), French (A1 - A2).

Certifications:

- Competent Communicator, Toastmasters International (*November 2018*).

Extracurricular Activities -----

Fis-Mat* - Autonomous University of San Luis Potosí

* Fis-Mat is an annual mathematics and physics contest.

- Mathematics: 3rd place (2013), 8th place (2014), 10th place (2017), 3rd place (2019).
- Physics: 4th place (2019).

Mathematical Olympiads

- National Stage (*Campeche 2018*).
- Regional Stage: Silver Medal (*remote 2018*), Honorific Mention (*Ciudad Victoria 2017*).
- Statal Stage (*San Luis Potosí*): Gold Medal (*2015-2018*), Bronze Medal (*2013*).

Member of LamBot 3478 team - Tecnológico de Monterrey

August 2016 - May 2017

- LamBot 3478 is a team in the FIRST Robotics Competition.
 - April 2017: FIRST Houston Championship (*Houston, USA*).
 - March 2017: Toluca Regional (*Toluca, Mexico*).
 - October 2016: Off-season "The Remix in Woodland" (*Houston, USA*).