TOMAS GONZALEZ LARA

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Website

EDUCATION

Carnegie Mellon University, School of Computer Science — Pittsburgh, Pennsylvania, US

Ph.D. in Machine Learning — 2023-present
Advisors: Aaditya Ramdas and Giulia Fanti

Pontifical Catholic University of Chile, Institute for Mathematical and Computational Engineering — Santiago, Chile

Master of Science in Engineering — 2023
Advisor: Cristobal Guzman
Thesis: "Stochastic first-order methods for differentially private machine learning"
Graduated with Maximum Distinction

Bachelor of Science in Engineering — 2021
Major: Math for Data Science. Minor: Math for Theory of computation.
Graduated with Distinction

RESEARCH

1. **Tomás González**, Giulia Fanti and Aaditya Ramdas, "Private Evolution Converges". NeurIPS 2025.
2. **Tomás González**, Mateo Dulce, Aaditya Ramdas and Monica Ribero, "Sequentially Auditing Differential Privacy". NeurIPS 2025
3. **Tomás González**, Cristóbal Guzmán and Courtney Paquette, "Mirror Descent Algorithms with Nearly Dimension-Independent Rates for Differentially-Private Stochastic Saddle-Point Problems". Conference on Learning Theory (COLT) 2024.
4. Raman Arora, Raef Bassily, **Tomás González**, Cristóbal Guzmán, Michael Menart, and Enayat Ullah, "Faster Rates of Convergence to Stationary Points in Differentially Private Optimization". International Conference in Machine Learning (ICML) 2023.

EXPERIENCE

Google Deepmind — Montreal, Quebec, Canada

Student Researcher, Statistical Learning and Optimization team — Sep 2022 - Apr 2023
Supervisors: Courtney Paquette and Fabian Pedregosa.
Research**:** A Mirror Descent Method for Differentially Private Stochastic Saddle-Point Problems in ℓ_1 geometry.

Perceptron — Santiago, Chile

Data Science Intern — May - Jul 2022

Pontifical Catholic University of Chile — Santiago, Chile

Undergraduate Research Assistant — 2019, 2021
Supervisor: Prof. Cristobal Guzman

Research: Sequential Games for Dynamic Inspection Problems (2019) and
Non-Euclidean Differentially Private Stochastic Convex Optimization (2021)

SERVICE

- Reviewer for the Optimization for Machine Learning (OptML) Workshop at NeurIPS (2022, 2023, 2024, 2025)
- Math tutor at Instituto Nacional High School (2017)
  - In charge of preparing a group of 25 high school students to participate in math olympiads at a national and international level.

AWARDS

- **Conference Scholarship**, Google
  - Supports conference-related travel expenses for COLT 2024.
- **Graduate Fellowship**, Machine Learning Department, School of Computer Science, Carnegie Mellon University
  - Full funding for first year of PhD studies (2023–24).
- **Student of the Year**, Institute for Mathematical and Computational Engineering, Pontifical Catholic University of Chile
  - Top graduate in the class of 2023.
- **Mathematics Student of the Year**, Instituto Nacional High School
  - Top mathematics student among ~750 graduating seniors in the class of 2016.
- **High School Mathematical Olympiads**
  - International Mathematical Olympiad (IMO): Honorific Mention (Hong Kong, 2016).
  - Iberoamerican Mathematical Olympiad: Honorific Mention (Puerto Rico, 2015).
  - Southern Cone Mathematical Olympiad: Bronze Medal (Chile, 2015).
  - Chilean Mathematical Olympiad: Gold medal (2014), Silver medal (2015, 2013), Bronze medal (2016).

TEACHING

Pontifical Catholic University of Chile Santiago, Chile

Teaching Assistant of undergraduate courses 2018-2022

1. (Head teaching assistant) Probability and algorithms (2021)
2. (Grading and teaching) Linear algebra (2018, 2019, 2022)
3. (Teaching) Discrete mathematics (2021)
4. (Grading) Discrete mathematics (2019, 2020)
5. (Grading and teaching) Calculus II (2020)

Teaching Assistant of postgraduate courses 2021-2022

1. (Grading) Visual recognition (2021)
2. (Grading) Relational and reinforcement models (2021, 2022)

TALKS

1. "Sample Complexity of Statistical Optimal Transport", Optimal Transport reading group, CMU, July 2025.
2. "Mirror Descent Algorithms with Nearly Dimension-Independent Rates for Differentially-Private Stochastic Saddle-Point Problems" Statistics and Machine Learning Reading Group, CMU, February 2025.
3. "Mirror Descent Algorithms with Nearly Dimension-Independent Rates for Differentially-Private Stochastic Saddle-Point Problems" Machine Learning Theory Summer School, Princeton University, August 2024.
4. "Mirror Descent Algorithms with Nearly Dimension-Independent Rates for Differentially-Private Stochastic Saddle-Point Problems", Conference on Learning Theory, University of Alberta, June 2024.
5. "Differentially Private Stochastic Saddle-Point Problems in ℓ_1 geometry", SIAM Conference on Optimization (OP23), June 2023.
6. "Differentially Private Statistical Synthetic Data Generation", Tea Talks, Google Brain, January 2023.
7. "Differentially private stochastic non-convex optimization", Random Matrix Theory + Optimization + Machine Learning seminar at McGill University, October 2022.
8. "Differentially private stochastic non-convex optimization", International Conference on Continuos Optimization (ICCOPT), Lehigh University, July 2022.
9. "Differentially private stochastic non-convex optimization", Algorithms, Combinatorics, Game Theory and Optimization seminar at University of Chile, July 2022.

Last update: Sep 2025.