TOMAS GONZALEZ LARA

Email: tcgonzal@andrew.cmu.edu
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

EXPERIENCE

Google Research — New York, USA

Research intern, Modeling and Data Privacy team — May - Aug 2026
Supervisors: Monica Ribero and Travis Dick
Research**:** Memorization in supervised finetuning.

Simons Institute at UC Berkeley — Berkeley, California, USA

Visiting graduate student in Federated and Collaborative Learning program — Mar 2026

Google Deepmind — Montreal, Quebec, Canada

Student Researcher, Statistical Learning and Optimization team — Sep 2022 - Apr 2023
Supervisors: Courtney Paquette and Fabian Pedregosa.
Research**:** Mirror Descent Methods 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)

AWARDS

- **JP Morgan AI PhD Fellowship 2025**
- **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).

RESEARCH

1. **Tomás González** and Gonzalo Mena, "Statistical Rates for Entropic Optimal Transport in the Discrete to SubGaussian Regime". Preprint 2026.
2. Ben Jacobsen, **Tomás González**, Gavin Brown, Kassem Fawaz, Aaditya Ramdas, "Optimal Rates for Differentially Private Hypothesis Testing with E-values". Preprint 2026.
3. Diego Martinez-Taboada, **Tomás González**, Aaditya Ramdas, "Vector-valued self-normalized concentration inequalities beyond sub-Gaussianity". Conference on Algorithmic Learning Theory (ALT) 2026.
4. **Tomás González**, Giulia Fanti and Aaditya Ramdas, "Private Evolution Converges". NeurIPS 2025.
5. **Tomás González**, Mateo Dulce, Aaditya Ramdas and Monica Ribero, "Sequentially Auditing Differential Privacy". NeurIPS 2025
6. **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.
7. 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.

TALKS

1. "Mirror Descent Algorithms with Nearly Dimension-Independent Rates for Differentially-Private Stochastic Saddle-Point Problems" SIAM Conference on Optimization (OP26), June 2026.
2. "Sample Complexity of Statistical Optimal Transport", Optimal Transport reading group, CMU, July 2025.
3. "Mirror Descent Algorithms with Nearly Dimension-Independent Rates for Differentially-Private Stochastic Saddle-Point Problems" Statistics and Machine Learning Reading Group, CMU, February 2025.
4. "Mirror Descent Algorithms with Nearly Dimension-Independent Rates for Differentially-Private Stochastic Saddle-Point Problems" Machine Learning Theory Summer School, Princeton University, August 2024.
5. "Mirror Descent Algorithms with Nearly Dimension-Independent Rates for Differentially-Private Stochastic Saddle-Point Problems", Conference on Learning Theory, University of Alberta, June 2024.
6. "Differentially Private Stochastic Saddle-Point Problems in $\ell 1$ geometry", SIAM Conference on Optimization (OP23), June 2023.
7. "Differentially Private Statistical Synthetic Data Generation", Tea Talks, Google Brain, January 2023.
8. "Differentially private stochastic non-convex optimization", Random Matrix Theory + Optimization + Machine Learning seminar at McGill University, October 2022.
9. "Differentially private stochastic non-convex optimization", International Conference on Continuos Optimization (ICCOPT), Lehigh University, July 2022.
10. "Differentially private stochastic non-convex optimization", Algorithms, Combinatorics, Game Theory and Optimization seminar at University of Chile, July 2022.

SERVICE

- Reviewer for the Optimization for Machine Learning (OptML) Workshop at NeurIPS (2022, 2023, 2024, 2025, 2026) and NeurIPS 2026.
- 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.

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)

Last update: June 2026.