### Marcelo Gallardo

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Department of Mathematics Pontificia Universidad Católica del Perú Lima, Pe. marcelo.gallardo@pucp.edu.pe

# $\mathbf{CV}$

### Education

Graduate school M.A. (courses) in Applied Mathematics and Economics. 2023-2025.

B.s. and Lic. in Mathematics and 2020 - 2025 Pontificia Universidad Católica del Perú. 19.2/20 (FCI) and 18.16/20 (Overall).

Baccalauréat Scientifique (2017-2019). Lycée Franco Péruvien.

### Summer and winter school

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QLab Summer School, Lima, Pe. Jan-Feb. 2022, 2023, 2024.
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QLab Winter School, Lima, Pe. Aug. 2024.

Harvard University, Ethics of Artificial Intelligence in Business, MA. Aug. 2024.

### Academic Statement

Relevant coursework at PUCP here.

#### Experience

Research Assistant (2021-)

PUC Chile Santiago, Ch. Working with Professor Carlos Noton. 2025-.

UNSW Sydney, Au. Working with Professor Juan Carlos Carbajal. 2024-.

GRADE, Lima, Pe. Worked with Professor Juan León Jara-Almonte. 2022-2024.

PUCP, Lima, Pe. Worked with Professor Jorge Richard Chávez Fuentes. 2021-2025.

Teaching Assistant (2022-)

Mathematics for Economics and Finance 3. With PhD Jorge Richard Chávez Fuentes.

Mathematics for Economists (IV). With Professor Jorge Richard Chávez Fuentes.

Optimization I. With Professor Jorge Richard Chávez Fuentes.

Guest professor: Federico Echenique (UC Berkeley).

Functional Analysis. With Professor Percy Braulio Fernández.

Microeconomics 2. With Professor Pavel Coronado Castellanos.

Financial Microeconomics. With Professor José David Gallardo Kú.

# Working papers and publications

Congestion and Penalization in Optimal Transport. With Jorge Richard Chávez Fuentes and Manuel Loaiza.

Heterogenous Quadratic Regularization in Optimal Transport. With Jorge Richard Chávez Fuentes and Manuel Loaiza. Submitted.

Irregular wave dynamics driven by a random force within the Burgers equation. With Marcelo Flamarion. Submitted.

Field Experiments on Seasonal Products and Markdown Pricing. With Carlos Noton. Working paper.

EPU Index: Leveraging X, ChatGPT-3.5 Turbo, and DeepSeek. With Manuel Loaiza and Gabriel Rodriguez Briones. Working paper.

#### Books and lecture notes

Linear Algebra and Optimization for Economists. With Jorge Richard Chávez Fuentes. Pre-published book. Foreword from Professor César Martinelli. Submitted to Fondo Editorial PUCP.

Dynamical Systems and Optimal Control for Economists. With Jorge Richard Chávez Fuentes. Under review at Springer.

Fundamentals of Econometric Theory. With Juan León Jara-Almonte. Lecture notes. Published in DECON PUCP.

Notes on Optimal Transport Theory and its Applications in Economics and Finance. With Carlos Cosentino.

## Awards

Mention Très Bien au BAC (19.91/20). Lycée Franco Péruvien, Lima Pe, 2018.

Admission to l'X (École Polytechnique) Bachelor Program. Paris, Fr, 2019.

Winner of the contest Initiation to Scientific Research. PUCP, Lima, Pe, 2020.

Winner of the contest Initiation to Scientific Research. PUCP, Lima, Pe, 2021.

Ranked first in my class in the Mathematics major. PUCP, Lima, Pe, 2025.

Excellence Scholarhsip PUCP, Lima, Pe, 2024.

Top 2.5% in the Faculty of Sciences and Engineering in PUCP (more than 4000 students).

### Skills

Programming: LATEX, Python, Matlab.

Languages: Spanish (Native), French (Advanced, BAC 2019), English (Proficient, FCE 2017).

### Research interests

Mechanism design. Market design. Decision theory. Optimal Transport. Optimal Control.

### Academic presentations

XXXVIII Colloquium of the Peruvian Mathematical Society. Aug. 2025.

# References

César Martinelli. Professor of economics at George Mason University.

Juan Carlos Carbajal. Associate Professor at the UNSW Sydney.

Jorge Richard Chávez. Professor of the Mathematics Department at Pontificia Universidad Católica del Perú.

Juan León Jara. Associate Professor of the Economics Department at Pontificia Universidad Católica del Perú and Research Associate at GRADE.

Marcelo Flamarion. Tenure Track of the Mathematics Department at Pontificia Universidad Católica del Perú.