Marcelo Gallardo

MATHEMATICS · PUCP

San Isidro. Lima. Peru

□+51 980 605 862 | ■marcelo.gallardo@pucp.edu.pe | ★https://marcelogallardob.github.io/ | ☑ MarceloGallardoB

Education_

B.S. AND LIC. MATHEMATICS

Pontificia Universidad Católica del Perú

Lima, Pe

2020 - Present

- Master courses: Optimal Transport, Stochastic Processes, Advanced Microeconomics
- 18.7/20

Q-LAB

Lima, Pe

PUCP January-February 2022, 2023 and 2024

• Courses: Machine Learning for Social Sciences, Time Series and Machine Learning for Macroeconomics, Finance, Applied Econometrics, Asset Pricing, Empirical Industrial Organization

École Polytechnique Fédérale de Lausanne

Lausanne, SW

CYCLE PROPÉDEUTIQUE PHYSICS

September 2019 - January 2020

- Courses 2019: Advanced Real Analysis for Physicists, Advanced Linear Algebra for Physicists, Advanced Mechanics
- Courses 2020-2021: Numerical Physics I, Numerical Physics II

Experience_

Teaching Assistant

Pontificia Universidad Católica del Perú

Lima, Pe

March 2022 - November 2022 and March

2024-present

- Mathematics for economists 3. Undergraduate. With Professor PhD. Jorge R. Chávez.
- Mathematics for economists 4. Undergraduate. With Professor PhD Jorge R. Chávez.
- Convex Optimization. Undergraduate. With Professor PhD. Jorge R. Chávez.
- Functional Analysis. Undergraduate. With Professor PhD. Percy Fernández.
- Microeconomics 2. With PhD. Pavel Coronado.

Grupo de Análisis para el Desarrollo

Lima, Pe

March 2022 - November 2022 and October 2023-present

- Collaborating with Professor Juan L. Jara Almonte.
- Creation of lecture notes for the course Fundamentals of Econometrics.
- · Working paper: innovation indicator in Peruvian universities. Data collection, processing, k-means clustering and confirmatory factor analysis.
- Explore and eventually develop a statistical package and test to study structural changes in parameters.

Pontificia Universidad Católica del Perú

Lima, Pe

RESEARCH ASSISTANT

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Collaborating with Professor Jorge R. Chávez.

- Pre-published book about Linear Algebra and Static Optimization for Economists.
- Working book about Dynamical Systems and Optimal Control in continuous time.

UNSW Sydney Sydney

RESEARCH ASSISTANT

March 2024-present

March 2021-present

- Collaborating with Professor Juan Carlos Carbajal.
- Literature review, expositions, mathematical derivations, academic and logistical support.

Working papers, papers and others_

Harnessing Twitter and GPT for a Novel Political Uncertainty Index for Peru: Implications for USD/PEN Exchange Rate Fluctuations with Manuel Loaiza and PhD Gabriel Rodriguez.

Innovation in Peruvian universities with PhD Juan L. Jara.

Brouwer fixed point theorem and applications in general equilibrium with Carlos Cosentino and Eduardo Llamoca.

Lecture notes in Optimal Transport: Entropic Regularization and Applications to Economics and Finance with Carlos Cosentino and supervised by Johel Beltrán.

Lecture notes in Econometrics: with PhD Juan L. Jara.

Books_

Linear Algebra and Optimization for Economists (pre-published) with PhD Jorge R. Chávez.

Dynamical Systems and Optimal Control Theory in Continuous Time for Economists (working) with PhD Jorge R. Chávez.

March 22, 2024 Marcelo Gallardo

Awards, & achievements_____

12/2018	Mention d'excellence au BAC, top mark 19.91/20, Colegio Franco Peruano, Lima PE	
05/2019	Admission to l'X Bachelor Program, Paris, France	
12/2020	Contest initiation to scientific research, PUCP Lima, PE	900 s/.
12/2021	Contest initiation to scientific research, PUCP Lima, PE	900 s/.
2022-2023	3 Ranked first in Economic courses. , PUCP Lima, PE	
2022-	Top 5% Faculty of Sciences and Engineering , PUCP Lima, PE	
2022-	Ranked first in my class in the Mathematics major., PUCP Lima, PE	

Skills_____

Programming: Python, LaTeX, Matlab, STATA

Languages: Spanish (Native), French (Proficient), English (Proficient).

Research interests

Economic theory. Optimization and convex analysis. Optimal control theory. Optimal Transport. Quantitative methods applied to economics.

References___

- 1. Jorge R. Chávez Fuentes. Professor of the Mathematics Department at Pontificia Universidad Católica del Perú.
- 2. Juan L. Jara Almonte. Professor of the Economics Department at Pontificia Universidad Católica del Perú and Research Associate at GRADE.
- 3. Juan Carlos Carbajal. Associate Professor Post-Graduate Coordinator (PhD program) School of Economics, UNSW Sydney
- 4. Alfredo B. Poirier Schmidt. Professor of the Mathematics Department at Pontificia Universidad Católica del Perú.
- 5. Johel V. Beltrán Ramírez. Professor of the Mathematics Department at Pontificia Universidad Católica del Perú and Visiting Professor at Fundação Getulio Vargas.
- 6. Pavel Coronado. Professor of the Economics Department at Pontificia Universidad Católica del Perú and Q-LAB director.
- 7. Percy Fernandez. Professor, Faculty Coordinator and Graduate School Director of the Mathematics Department at Pontificia Universidad Católica del Perú.