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Juan José Gervasio

Msc. Physics / Data Analyst

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Msc in Physics with vast experience in research and university teaching. Currently in transition from academia to industry, looking for new challenges where I can contribute my technical knowledge and develop new skills.

Work Experience

National University of La Plata (UNLP) — **La Plata, Argentina**

Associate Professor — *June 2022 — Present*

- Developed theoretical-practical lessons and evaluations for the course Mathematics for Engineering, common to all majors in the Faculty of Engineering. In charge of directing the group of teaching assistants and teaching to groups of between 60 and 90 undergraduate students.
- Main topics: Algebra, Arithmetic, entry-level Calculus
- Analysis of the data from the last courses:
- Some original learning resources: YouTube,

Head of Practical Assignments — *August 2021 — Present*

- Developed practical-oriented lessons for various chairs of the Faculties of Engineering and Exact Sciences.
- Main topics: Calculus, entry-level Physics, Differential Equations.
- Some original learning resources: GeoGebra,

Teaching Assistant — *February 2015 — Present*

- Responsible for assisting students during practical lessons, for various chairs of the Faculties of Engineering, Exact Sciences and Computer Sciences.
- Main topics: Algebra, Calculus, Linear Algebra, entry-level Physics, Differential Equations.

Institute of Physics La Plata (IFLP) — **La Plata, Argentina**

Research Project Collaborator — *March 2017 — December 2020*

- Working in the Mathematical Physics Group, analyzing the applications of differential operators to Quantum Field Theory, initially as part of my undergraduate final project, and continuing as part of my PhD studies.
- This work was presented as a poster at the 102nd and 106th Annual Meetings of the Argentine Physics Association, in 2017 and 2021:
- Main topics: Differential operators, Spectral functions, Effective Action, Dirac and scalar fields.

Education

Msc. in Physics, *National University of La Plata* — *March 2010 — March 2017*

Thesis for graduation: *Spectral functions of Differencial Operators on maximally symmetric Euclidean spaces and its applications to Quantum Field Theory* SEDICI

Course in Data Analytics, *Coderhouse* — *February 2023*

Final Project: *Analysis of Historical Data of National Football Teams*

Data Analyst in Python, *DataCamp* — *August 2024 - November 2024*

Developed projects and courses taken:

Projects

Analysis of Historical Data of National Football Teams

Transformation and analysis of public data on national football teams available in kaggle.com, aiming to obtain an evaluation criteria for the teams performance and to establish a ranking to compare with the one developed by FIFA. The first data transformation was made using Excel and SQL, and the analysis and presentation of the results were performed in Power BI.

Monte Carlo simulations of a simple traffic model

Analysis of a simple traffic model that includes random driver behaviour for better agreement with real traffic. Different scenarios were simulated by changing probabilities and the maximum velocities, and the fundamental diagrams were obtained. This project was developed using Python.

Additional Experience

Specializations:

Computational tools for scientists, Institute of Physics and Biological Systems (IFLySiB), La Plata	2021
Scientific programming techniques, National University of Quilmes	2020
Introduction to Quantum Field Theory I, National University of La Plata	2018
IFT-Perimeter-SAIFR Journeys into Theoretical Physics, Institute of Theoretical Physics, Sao Paulo	2017

Member of advisory commissions for the Physics Department, UNLP — 2014 — 2016