

Juan Ignacio Fulponi

Transportation Economist and Data Scientist | jfulponi@economicas.uba.ar

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About Me

Dedicated data scientist with expertise in transportation planning, data-driven decision-making, and economic analysis. Proficient in R, Python, and SQL, with extensive experience in leveraging advanced data analysis techniques to inform public policy and optimize operations. Passionate about exploring innovative solutions to urban mobility challenges.

Work Experience

ALEPH SRL (Firenze, Italy)

Transportation Consultant – Data Scientist and Transportation Planning

March 2024 - Present

- Wide-effects impact evaluation.
- Transport Engineering and Transportation Data Science.
- Macro and Micro analysis for road, High-Speed trains and infrastructure projects and viability analysis.

World Bank Group (Remote - USA)

Transportation Planning

November 2022 – Present

Projects:

- Measuring the impact of public investment in transportation infrastructure on traffic congestion in Lima, Perú. Analysis of socioeconomic cost of traffic congestion with Waze data and accessibility of public transport through GTFS data in Lima.
- Generation of Origin and Destination matrices through cellphone data for Buenos Aires, Argentina and Bogotá, Colombia. Calculation of basic transportation indicators such as mean distances between administrative regions, travel speeds and geospatial positioning.
- Support in day-to-day operations of transportation planning in several projects in Latin America and Africa.
- Team leading, follow-ups with government authorities, multidisciplinary work.

World Bank Group - DDP (Remote - USA)

Development Data Partnership

March 2022 – June 2023

- Lead data science initiatives integrating R and Python with open-source libraries such as Spark, Apache Sedona, and Shiny.
- Optimize processes and enhance documentation to increase operational efficiency.
- Collaborate with partners to deliver impactful insights for global development.

Data Scientist, Inter-American Development Bank

External Consultant April 2022 – June 2023

- *Data Partnership with Veraset.* Consulting and research to obtain mobility patterns for the cities involved in the Urban Mobility Observatory of CAF and IDB. Cellphone and GPS data was used to obtain Origin and Destination matrices, mean distances between administrative regions and modal split inference. Sparklyr, Geospark, tidyverse, S3, tmaps and Leaflet.
- *Data Partnership with Facebook.* Consulting and research to obtain mobility patterns for 17 Latin American cities. Facebook geospatial database processing. Interpretation of the results and visualization. Programming language used: R and Python.

National Institute of Statistics and Censuses (INDEC)

Product Owner

November 2021 – March 2022

- Directed modernization projects for processing construction cost data using C#, R, and SQL.

Logistical Intensity Indicator - Project with IDB, GCBA and San Martín University (UNSAM)

Data analyst in GIS and database processing

November 2021 – December 2021

- Construction of the Logistics Intensity Indicator for the City of Buenos Aires through the integration of heterogeneous databases, such as Waze, TomTom, Open Data of the GCBA, Open Street Maps. Processing and homogenization. Presentation of data.

UBER

External consultant - Data Scientist

November 2021 – March 2022

- *Research project:* effect of UBER trips on traffic congestion in the Metropolitan Region of Buenos Aires. Use of Geospatial and econometric Machine Learning tools with R. Homogenization of transport and mobility databases.

Alphacast

Data Scientist

June 2021 – October 2021

- Automated data collection workflows using Python for various public and private sources.

Transportation Department - Buenos Aires City

Transportation economist

February 2017 – December 2019

- Analyzed transportation projects, developed indicators, and conducted feasibility studies.

Education

MSc in Transport Economics, Planning, and Operation

University of Pablo de Olavide, Seville, Spain

Graduated in 2023

Bachelor's Degree in Economics

University of Buenos Aires

- Graduated with honors (8/10 GPA).
- Thesis: "Traffic congestion in Buenos Aires: an economic analysis of its causes and consequences" (Grade: 10/10).

Skills

- **Data Science:** R, Python, SQL, Spark.
- **Visualization:** Shiny, Power BI, QGIS, Blender,
- **Other Tools:** Excel, Photoshop.
- **Languages:**
 - English (C2 Proficient)
 - Italian (intermediate)
 - Spanish (native)

Scientific Publications

- Fulponi, Juan Ignacio, Ivarsson, Ellin and Stokenberga, Aiga (2023). “[The COVID-19 Mark on Urban Mobility: A Tale of Two Cities’ Journey to Recovery](#)”, Policy Research Working Paper Series 10484, The World Bank.
- Fulponi, Juan Ignacio, Ivarsson, Ellin, González, Karla and Stokenberga, Aiga (2024). “[Leveraging Big Data to Understand Women’s Mobility in Buenos Aires](#)”, Policy Research Working Paper Series 10662, The World Bank.
- Fulponi, Juan Ignacio and Molerés, Cristian Joaquín (2022). [Methodology for mobility studies with Facebook data: generating Origin and Destination Matrices for Latin American cities and Analysis for Buenos Aires](#). Inter-American Development Bank and Urban Mobility Observatory.
- Fulponi, Juan Ignacio (2022). [Traffic congestion in Buenos Aires: diagnosis and public policy recommendations for a more sustainable city](#). AIIT 3rd International Conference. New Scenarios for Transport Infrastructure and Systems: Transition to Inclusivity, Resilience and Sustainability. September 15 and 16, 2022 in Rome, Italy.
- Fulponi, Juan Ignacio (2021). The socioeconomic costs of road accidents: an estimate for the City of Buenos Aires. XVIII Argentine Congress of Roads and Traffic. Mendoza, Argentina.
- Fulponi, Juan Ignacio (2016). Back to basics: The Creation of the BCRA in context. FACES. ISSN 0328-4050. The work was originally presented at the 9th Annual Award for Economic Research “Dr. Raúl Prebisch” of the Central Bank of the Argentine Republic. Available in: <http://nulan.mdp.edu.ar/2537>.
- Fulponi, Juan Ignacio (2016). A brief analysis of the impact of the PRO.CRE.AR on construction activity and on national and local employment (Mar del Plata-Batán). Communication presented at Jornadas de Economía Crítica, 9, Córdoba [ARG], 25-27 August 2016. Available in: <http://nulan.mdp.edu.ar/2510/>.
- Fulponi, Juan Ignacio & Lupín, Beatriz (2015). Application of differential equations in the Samuelson-Solow version of the Phillips Curve. Paper presented at the XV Page 3

National Conference on Technology applied to University Mathematics Education. IAD-COM. CABA, 25-26 June 2015.

Interests

- Urban Mobility
- Open-Source Projects
- Academic Research
- Drawing, 2D and 3D animation
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