

Bernardo David Puente Mejia

Supply Chain and Logistics - Researcher - Data geek & enthusiast

Luxembourg



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Summary

- I currently lead and support research projects in Logistics and Supply Chain. I find profound passion in finding insights from data, developing mathematical models, making visualizations and teaching. I have strong interests in transportation research, urban logistics, air freight transportation and machine learning methods.

EDUCATION

- **Master in Logistics and Supply Chain Management** (2022-2023)
University of Luxembourg
- **Graduate Certificate in Logistics and Supply Chain Management GCLOG** (2019-2020)
Massachusetts Institute of Technology MIT. Cambridge, MA
- **MicroMasters Certificate in Supply Chain Management** (2018-2019)
Massachusetts Institute of Technology on edX
- **Industrial Engineering Bachelor's Degree** (2018-2019)
Universidad San Francisco de Quito. Quito, Ecuador

ACADEMIC EXPERIENCE

- **Research Staff (full time). Institute of Innovation in Logistics and Supply Chain Management CATENA-USFQ. Quito, Ecuador** (2018-2022)
Lead and support research projects of the institute related to topics such as: Logistics and Supply Chain, Urban Systems Transportation and Mobility, Urban Logistics, Processes and Productivity, Humanitarian Logistics, Data Analysis, Big Data, Machine Learning.
- **Remote Research Assistant (part time). MIT Food and Retail Operations Lab FaROL. Cambridge, MA. Online.** (2022-Present)
Support research projects of the lab.

PROFESSIONAL WORK EXPERIENCE

- **Consultant. Institute of Innovation in Logistics and Supply Chain Management CATENA-USFQ. Quito, Ecuador** (2018-2022)
Consultant in Logistics, Supply Chain Management and Data Management projects.
- **Independent consultant - Data Management. Quito, Ecuador.** (2020-2022)
Independent consultant on data management. Professional applications developed on VBA-Excel for companies of different industries.
- **Industrial consultant. COGNITIVA. Quito, Ecuador.** (2017-2018)
Industrial systems modeling and simulation for operation improvement and optimization.
- **Data and Process Analyst - Intern. Sassola Partners. Madrid, Spain.** (2017)
Database design and management. Investment funds analysis and tracking.

TEACHING EXPERIENCE

- **Instructor. Unviersidad San Francisco de Quito USFQ. Quito, Ecuador (2018-2022)**
Graduate Courses: Operations Research and Optimization Lab, Supply Chain Design Lab, Supply Chain Fundamentals Lab, Supply Chain Dynamics Lab.
Undergraduate Courses: Probability and Statistics Lab, Discrete Events Simulation Lab, Data Management Lab, Biostatistics Lab, Quality Management Lab, Introduction to Industrial Engineering
- **MITx Community TA. Massachusetts Institute of Technology MIT on edX. (2019-2020)**
Community TA for two runs of MITx.CTL.SC3x Supply Chain Dynamics.
- **Teaching Assistant. Unviersidad San Francisco de Quito USFQ. Quito, Ecuador. (2017-2018)**
Undergraduate Courses: Logistics, Simulation, Data Management.

RESEARCH AND PUBLICATIONS

- **Freight Trip Generation Modeling and Data Collection Processes in Latin American Cities. Modeling Framework for Quito and Generalization Issues.**
Puente-Mejia, B. Palacios-Arguello, L. Gonzalez-Feliu, J. Suarez-Nunez, C. (2020), Transportation Research Part A: Policy and Practice, Volume 132, Pages 226-241, DOI:10.1016/j.tra.2019.10.013
- **Optimization of Distribution of Humanitarian Aid: Cotopaxi Volcano.**
Ayala-Jaramillo, M., Celleri-Malonado, J., Camacho, C., **Puente-Mejia, B.** (2022), ASCE Natural Hazards Review, Volume 23 (2), Page 05022001 [https://doi.org/10.1061/\(ASCE\)NH.1527-6996.0000549](https://doi.org/10.1061/(ASCE)NH.1527-6996.0000549).
- **Data-Driven Solutions for Evaluating and Planning Last Mile Operations in Latin America. A Methodological Approach Focused in Quito.**
Puente-Mejia, B., Orellana-Rojas, C. and Suarez-Nunez, C. (2020); Yoshizaki, H.T.Y., Mejia Argueta, C. and Mattos, M.G. (Ed.) Supply Chain Management and Logistics in Emerging Markets, Emerald Publishing Limited, pp. 107-129. <https://doi.org/10.1108/978-1-83909-331-920201006>.
- **Machine learning applied to last-mile operations: Models development for stop analysis in urban freight transportation.**
Puente-Mejia, B., Suarez-Nunez, C., Calahorrano, D., Gavilanes, M., Masaquiza, D. (2022); Production and Operations Management. Springer Proceedings in Mathematics and Statistics, vol 391.10.1007/978-3-031-06862-1_38.
- **Analyzing the Effect of Basic Data Augmentation for COVID-19 Detection through a Fractional Factorial Experimental Design.**
Hidalgo, M., Baldeon, M., Murillo, J., **Puente-Mejia, B.**, Navarrete, D., Riofrío, D., Pérez, N., Benítez, D., Flores, R., (2022); Emerging Science Journal. <https://doi.org/10.28991/ESJ-2023-SPER-01>.
- **Measuring the Impact of Data Augmentation Techniques in Lung Radiograph Classification Using a Fractional Factorial Design: A Covid-19 Case Study.**
Hidalgo, M., Baldeon, M., Murillo, J., **Puente-Mejia, B.**, Navarrete, D., Riofrío, D., Pérez, N., Benítez, D., Flores, R., (2022); IEEE Colombian Conference on Applications of Computational Intelligence (ColCACI), pp. 1-6. <https://doi.org/10.1109/ColCACI56938.2022.9905303>.
- **Logistics cost assessment of the coffee value chain. A Peruvian Case Study.**
Llanos, D., Chong, M., Orellana-Rojas, C., **Puente-Mejia, B.**, (2022); Production and Operations Management. Springer Proceedings in Mathematics & Statistics, vol 391. https://doi.org/10.1007/978-3-031-06862-1_13.
- **Traffic and Congestion Effects of Urban Last-Mile Deliveries. Measuring Impact and Assessing Policy Measures.**
Research paper - Main Author. Working paper. Collaboration with MIT-CTL, USA.

- **The impact of congestion and polycentricity on urban distribution strategies.**
Research paper - Secondary Author. Paper under review. Collaboration with MIT-CTL, USA.
- **Stac-Da: Structure Aware Cross-Modality Domain Adaptation Framework with Image and Feature Level Adaptation for Medical Image Segmentation.**
Research paper - Secondary Author. Paper under review. Collaboration with Moffitt center, USA.
- **A comparison of conventional and virtual reality rest breaks in office workers.**
Research paper - Secondary author. Paper under review.

CONFERENCES AND SEMINARS

- **Logistics research seminar, SEPRO group. Bogota, Colombia.** (May 2023)
Invited speaker: Machine learning based inventory projects prioritization.
- **IEEE CoLCACI. IEEE Colombian Conference on Applications of Computational Intelligence.** (July 2022)
Paper accepted and presented: Measuring the Impact of Data Augmentation Techniques in Lung Radiograph Classification Using a Fractional Factorial Design: A Covid-19 Case Study
- **2022 MIT SCALE Latin America Conference. Cambridge, MA.** (June 2022)
Invited conference reviewer.
- **ISCEA - International Supply Chain Education Alliance.** (April 2022)
Invited speaker: 2nd Annual Global Sustainable Supply Chain Pledge Day.
- **Production and Operations Management Society (POMS) Conference. Lima, Peru.** (December 2021)
Two papers accepted and presented:
 - Machine learning applied to last-mile operations: Models development for stop analysis in urban freight transportation.
 - Logistics cost assessment of the coffee value chain. A Peruvian Case Study.
- **Logistics research seminar, SEPRO group. Bogota, Colombia.** (December 2021)
Invited speaker: Traffic and Congestion Effects of Urban Last-Mile Deliveries. Measuring Impact and Assessing Policy Measures.
- **2021 MIT SCALE Latin America Conference. Cambridge, MA.** (March 2021)
Two papers presented:
 - Traffic and Congestion Effects of Urban Last-Mile Deliveries. Measuring Impact and Assessing Policy Measures.
 - Observatory of Urban Transport of Cargo OTUC-QUITO.
- **Industrial and Systems Engineers IISE Latam Conference. Quito, Ecuador.** (March 2020)
Invited speaker. Big Data and Machine Learning Workshop using Orange.
- **MIT Global SCALE Network Supply Chain Research Expo. Cambridge, MA.** (January 2020)
Presented paper: Traffic and Congestion Effects of Urban Last-Mile Deliveries. Measuring Impact and Assessing Policy Measures.
- **MIT SCALE Latin America Conference. Cambridge, MA.** (April 2018)
Student Paper Competition: Freight Demand Estimation in High Commercial Density Areas as a Next Step in the km² Methodology.
 - Best Student Paper Award

ACADEMIC ACHIEVEMENTS AND RECOGNITION'S

- **2023 MIT SCALE Research Expo**
 - Best Research Expo Poster Presentation From Luxembourg Center for Logistics & Supply Chain Management (LCL).
- **Invited Reviewer**
 - 2022 MIT SCALE Latin America Conference
 - OR Spectrum (ORSP) Journal
 - 2021 MIT SCALE Latin America Conference
 - INGENIARE. Chilean Journal of Engineering
- **MITx MicroMasters in Supply Chain Management. May 2020.**
 - MITx Community TA Certificate of Excellence.
- **MIT GCLOG Program. July 2019.**
 - Micro Supply Chain Management - Best Growth Strategy Award
 - Supply Chain Resilience Evaluation And Mitigation (SCREAM) Game - Best Strategy Award
- **2018 MIT SCALE Latin America Conference. April 2018.**

Best Student Paper Award: Won the first place in the student paper competition among six competitor teams from all around Latin America. Granted 50% Scholarship to the MIT GCLOG program.

CERTIFICATIONS AND CREDENTIALS

- **CITI Program: Human Research, Social & Behavioral Research Investigators. January 2020.**
 - Under requirements set by: Massachusetts Institute of Technology Affiliates.
- **HarvardX Data Science Professional Certificate. (In Progress)**
- **MITx Computational Thinking using Python. 2018-2020**
 - MITx - 6.00.1x Introduction to Computer Science and Programming Using Python.
- **International research projects fundraising. Project design for capacity building grants. 2018**
 - 16h Certification. SHIFT Academy.

ADDITIONAL

- **Languages**
 - Spanish [Native], English [Fluent. IELTS: 8.0. TRF Number: 20EC000448PUEB007A], Portuguese [Basic], German [Basic], French[Basic].
- **Software Skills**
 - Python, Tableau, Unix & Slurm scripting for HPC, SQL, L^AT_EX, AMPL, VBA, Discrete events simulation, Advanced Data Analytics.
- **Extra Curricular**
 - Institute of Industrial and Systems Engineers. Student Chapter Vice-President 2014-2015.
- **Volunteering Work**
 - Catholic Missionary: Conferences speaker, groups and individuals guidance.