

Manuel Mendoza Hurtado

Lecturer in Computer Science - PhD in Advanced Computing, Energy and Plasmas

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01 Professional profile

Lecturer in the Department of Computer Science at the University of Jaén's Escuela Politécnica Superior de Linares and PhD graduate of the University of Córdoba. He defended his thesis, *Identification of population patterns using advanced machine learning techniques applied to mobile phone and geolocation data*, on 4 June 2026. The thesis was awarded *Sobresaliente cum laude* with International Mention. His research focuses on human mobility, geospatial machine learning, multi-label classification and digital trace data.

02 Professional experience

September 2025 - present

Temporary Lecturer (Profesor Sustituto) - University of Jaén

Teaching programming, databases, intelligent systems, mobile and distributed systems, and introductory computing across engineering degrees at the Escuela Politécnica Superior de Linares.

2025

Laboratory Technical Staff - University of Córdoba

Three-month technical appointment supporting multi-label learning project PID2022-141869NB-I00.

2021 - 2025

Predoctoral Researcher - FPU-UCO-2020 - University of Córdoba

Research on population-pattern identification using mobile phone and geolocation data with advanced machine-learning methods.

March - August 2020

RCT Development Intern - Keysight Technologies

Software development and testing with C#, Visual Studio and 5G technologies.

October 2018 - June 2019

Undergraduate Research Fellow - University of Córdoba

Research training in Python, machine learning and classification.

03 Education

2021 - 2026

PhD in Advanced Computing, Energy and Plasmas

University of Córdoba

Sobresaliente cum laude - International Mention.

2020

Master's Degree in Telematics and Telecommunication Networks

University of Málaga

2015 - 2019

BSc in Computer Engineering - Software Engineering

University of Córdoba

04 Scientific publications

1. Mendoza-Hurtado, M.; Romero-del-Castillo, J. A.; Ortiz-Boyer, D. (2026). **MAPLID: a new multi-label approach for place identification using data supplied by mobile network operators**. *International Journal of Geographical Information Science*. Online first. doi:10.1080/13658816.2026.2617932
2. García-Pedrajas, N. E.; Cuevas-Muñoz, J. M.; Mendoza-Hurtado, M.; Pérez-Rodríguez, J.; de Haro-García, A. (2026). **False flag: An evolutionary false labeling approach for multilabel classification**. *Applied Soft Computing*, 194, 114912. doi:10.1016/j.asoc.2026.114912
3. Mendoza-Hurtado, M.; Järv, O.; Malekzadeh, M.; Karasov, O.; Ortiz-Boyer, D. (2026). **Sensing labour mobility flows of cross-border urban regions using machine learning and geolocated social network data**. *EPJ Data Science*, 15(1), 55. doi:10.1140/epjds/s13688-026-00662-1
4. Mendoza-Hurtado, M.; Cerruela-García, G.; Ortiz-Boyer, D. (2025). **A supervised approach for land use identification in Trento using mobile phone data as an alternative to unsupervised clustering techniques**. *Applied Sciences*, 15(4), 1753. doi:10.3390/app15041753
5. Mendoza-Hurtado, M.; Romero-del-Castillo, J. A.; Ortiz-Boyer, D. (2024). **SAMPLID: A new supervised approach for meaningful place identification using call detail records as an alternative to classical unsupervised clustering techniques**. *ISPRS International Journal of Geo-Information*, 13(8), 289. doi:10.3390/ijgi13080289
6. Romero-del-Castillo, J. A.; Mendoza-Hurtado, M.; Ortiz-Boyer, D.; García-Pedrajas, N. (2022). **Local-based k values for multi-label k-nearest neighbors rule**. *Engineering Applications of Artificial Intelligence*, 116, 105487. doi:10.1016/j.engappai.2022.105487

05 Conference contributions

Dual-locality learning under neighbourhood coupling: interpretable and transferable models for structured trace data. Fourth General Meeting, COSY COST Action CA21101, Spain, 2026.

Data acquisition of users' location with mobile devices. 11th Scientific Conference for Early-Career Researchers, University of Córdoba, 2023.

06 Projects and collaborations

2023 - 2026

An integrated approach to semi-supervised multi-label learning through evolutionary computation
Project PID2022-141869NB-I00 - University of Córdoba
Period: 1 September 2023 - 31 August 2026 - Funding: EUR 113,750

International research stay

Digital Geography Lab - University of Helsinki

Research on cross-border labour mobility using geolocated social media data.

07 Research areas and skills

Research	Methods	Technology
Human mobility and urban analytics Geospatial machine learning	Multi-label classification Spatial validation and k-nearest neighbours	Python and data science Software development and databases