David Campo

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Professional Summary

Senior AI Engineer and Technical Evangelist with a PhD background in Computational Intelligence and ongoing PhD in Telematics Systems Engineering (UPM). Specialized in Machine Learning, Generative AI, Digital Twins, Knowledge Graphs, and FIWARE/NGSI-LD architectures. Chair of the FIWARE AI/ML Task Force, experienced in open-source reference architectures, technical trainings, and applied AI integration for smart solutions.

Key Expertise

Generative AI (LLMs, RAG) | ML, DL, MLOps | Knowledge Graphs & Linked Data | Digital Twins | FIWARE/NGSI-LD | Distributed Systems | Smart Cities / Smart Solutions

Experience

FIWARE Foundation
Senior Technical Expert & AI Advisor   *11/2022 – present*
- Chair of the FIWARE AI/ML Task Force: roadmap definition, community coordination, webinars and technical dissemination.
- Architecture and integration work on AI/ML and Generative AI within FIWARE smart solutions (NGSI-LD / context-driven patterns).
- Delivery of technical trainings and talks at FIWARE Global Summit and FIWARE webinars.

Onhys
Applied Research Engineer   *02/2020 – 08/2021*
Designed and implemented an integration system for automatic data treatment of crowd behavior, including architecture design, simulator calibration pipelines, and ML-based fusion of heterogeneous sources (video and IoT).

Alten
Data Scientist (Consultant)   *08/2019 – 01/2020*
Developed ML models for classification and data analysis; produced technical reports for stakeholders.

Avature / Igara Studio
Senior Software Engineer   *2016 – 2019*
Software development for SaaS products and C++ tooling, feature design and bug fixing in production environments.

Education

Universidad Politécnica de Madrid (UPM), Spain
PhD in Telematics Systems Engineering   *10/2024 – present*
Thesis focus: AI-powered Digital Twins using context data, knowledge graphs, and linked data.

Le Wagon, Nice (France)
ML & DL Bootcamp   *07/2022*
400-hour intensive program in Artificial Intelligence. Project: Deep learning for skin disease detection in images.

Fac. de Ing. y Cs. Hídricas, Universidad Nacional del Litoral, Santa Fe, Argentina
PhD in Engineering   *04/2019*
Thesis: "Validation of Clustering Algorithms". Developed a probabilistic validation index for evaluating overlapping clustering solutions in real-world datasets.

Facultad Regional Santa Fe, Universidad Tecnológica Nacional, Santa Fe, Argentina
Systems Engineering   *03/2012*
Evaluated clustering quality in bioinformatics datasets using Self-Organizing Maps (SOM).

Selected Publications

Real-time Spatial Retrieval Augmented Generation for Urban Environments
Campo et al. *2025*
arXiv: 10.48550/arXiv.2505.02271. Under major revision at a top-tier AI journal.

Stochastic Streets: A Walk Through Random LLM Address Generation in Four European Cities
Fu, Tairan; Campo, David Nazareno; Coronado-Blázquez, Javier; Conde, Javier; Reviriego, Pedro; Lombardi, Fabrizio *2025*
Computer, IEEE. DOI: 10.1109/MC.2025.3611067. Year: 2025.

A new index for clustering validation with overlapped clusters
Campo, Stegmayer, Milone *2016*
Expert Systems with Applications (Elsevier). DOI: 10.1016/j.eswa.2016.08.021.

Selected Talks & Trainings

Tech Training: "ML, MLOps & FIWARE" **Rabat, Morocco**
FIWARE Global Summit XI *05/2025*
Slides & code: github.com/dncampo/fgs2025-digit-recognizer-ml.

Tech Training: "Talking with your Smart Solution" **Rabat, Morocco**
FIWARE Global Summit XI *05/2025*
Slides & code: github.com/dncampo/fgs2025-talking-with-smart-solution.

Tech Training: "Integrating ML models into FIWARE applications" **Naples, Italy**
FIWARE Global Summit X *09/2024*
Slides & code: github.com/dncampo/FGS2024_ML-training.

Talk: "Integration of LLMs within the Context Broker" **Naples, Italy**
FIWARE Global Summit X. Tech and Trends *09/2024*
slides: https://github.com/ging/Poc_LLM_CB_FIWARE-Naples.

Technical Skills

Programming: Python, C/C++, Java, Bash, MATLAB/Octave, JavaScript
AI / ML: Machine Learning, Deep Learning, Clustering, LLMs, RAG, Model Evaluation
Data & Research: Data Mining, Experimental Design, Algorithm Validation, Performance Metrics
Mathematics & Statistics: Probability, Linear Algebra, Calculus, Optimization, Statistical Analysis
Platforms: FIWARE, NGSI-LD, Linux, Git, Docker
IoT: Arduino, Raspberry Pi
Web: PHP, JavaScript, MySQL (legacy/production experience)
Teaching & Training: University-level teaching, technical trainings, online courses, AI/ML workshops

Languages

Spanish (Native) | English/French/Italian (Fluent) | Portuguese (Advanced) | German (Beginner)

Interests

Learning, reading, sports and outdoor activities, languages and cultures, travel, hiking, networking.

Résumé version: January 2026
Full CV version at:
github.com/dncampo/cv/tree/main/full

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