Jose Antonio Lorencio Abril

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Education

Université Paris-Saclay, CentraleSupélec **France**
M2 Computer Science - Focus Big Data Management and Analytics, Best Academic Record Award *2023–2024*
Advanced Machine Learning • Decision Modeling • Graph Data Analytics

Université Libre de Bruxelles & BarcelonaTech **Belgium & Spain**
M1 Computer Science - Focus Big Data Management and Analytics, EMJMD Scholarship *2022–2023*
Advanced Databases • Big Data Management • Machine Learning

Universidad de Murcia **Spain**
BSc Mathematics & BSc Computer Science and Engineering, Honors Mention to Academic Excellence *2017–2022*
Statistical Inference • Stochastic Processes • Graphs and Discrete Optimization • Mathematical Modeling

Professional Experience

Télécom Paris, Institut Polytechnique de Paris **France**
Research Engineer *2024–2025*
Conducted research on AI security and adversarial robustness, developing robust machine learning models for real-world deployment scenarios. Independently authored technical reports and contributed to a publication as first author (in review).

AIT Austrian Institute of Technology **Austria**
Research Engineer *2024*
Developed time series forecasting models using federated learning, achieving 34% MSE improvement without compromising data privacy. Designed and tested optimization scenarios for distributed systems; results presented at EuroCarto 2024, contribution to a publication as first author (in review).

Université Libre de Bruxelles **Belgium**
Graduate Researcher Intern *2023*
Worked on airspace sectorization and contributed to MobilityDB. Work presented at Eurocontrol's HQ.

Grupo Orenes **Spain**
Data Science Intern *2022*
Built the company's first predictive model for slot machine usage, optimizing operational scheduling and resource management. Deployed machine learning pipelines in production using Airflow.

Selected Projects

GenAI-based Semantic Data Augmentation to Improve OOD Performance: Leveraged generative models (Stable Diffusion) and segmentation models (SAM, DINO) to create synthetic data to improve the performance of AI-powered robot hands.

LLM for Text Summarization: Fine-Tuned BERT for Extractive Summarization, and introduced an algorithm that allowed to summarize texts longer than BERT's context window.

Technical Skills

Programming: Python (NumPy, Pandas, PyTorch, TensorFlow), SQL, C/C++, Java, R, Git, Linux, Docker, LaTeX, Functional Programming

Machine Learning & AI: Supervised and Unsupervised Learning, Deep Learning, Time Series Forecasting, Federated Learning, Adversarial Robustness, ML Deployment

Others: Algorithm Optimization, Spatio-Temporal Data Analysis, Technical Communication, Independent Project Management

Languages

Spanish (Native) • English (C1) • French (B2, improving)