

AITOR CHAMIZO

Senior Data Scientist | Machine Learning Engineer

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I am a Data Scientist and Machine Learning Engineer with 3+ years of experience bridging biomedical engineering and scalable AI. I have proven expertise in deploying Machine Learning solutions in high-stakes environments including healthcare, cybersecurity, and finance. My main specialty is transforming complex research and business questions into production-ready architectures.

Portfolio / Web page: aitorchamizo.com

PROFESSIONAL EXPERIENCE

IQVIA | *Data Scientist – Data Science and Innovation Department*

August 2025 – Present | Madrid, Spain

- **Asymmetric Matching:** Engineered a semantic matcher from scratch, reducing computational complexity from hours to minutes while significantly boosting predictive performance by orders of magnitude with respect to the previously standard solution; now deployed globally.
- **Time-Series Automation:** Designed a *model factory* from scratch to automate pharmaceutical market analysis of product demand and pricing using Optuna for auto-optimization of naive and linear-econometric models, including static and dynamic covariates generation, streamlining delivery timelines.
- **Technical Leadership:** Established department-wide engineering best practices, including rigorous documentation, unit testing, and pipeline automation to enable project scaling and ensure better maintainability in the future.
- **Interdisciplinary Impact:** Partnered with teams to deliver high-impact tools for Doctor Targeting and hierarchical Bayesian modeling/Bayesian Structured Time Series modeling for demand product datasets in the context of scarce data.

Sherpa.ai | *Data Scientist & AI Researcher - Delivery and Research Department*

October 2023 – July 2025 | Madrid, Spain

- **LLM Innovation:** Developed custom model wrappers and aggregators for Federated Learning applied to text-to-text LLMs, enabling training on resource-constrained CPU/GPU devices.

- **Research & Federated Learning:** Authored technical reports on Horizontal and Vertical Federated Learning for Predictive Maintenance, Object Detection, and Image Classification.
 - **Project Leadership:** Led end-to-end development of a microscopy imagery project for collagen mutation in collaboration with the NIH and UCL, which improved model robustness and increased predictive performance by 8% over baseline benchmarks.
 - **Model Development:** Created state-of-the-art training and parameter aggregation methods for Random Forests, Gradient Boosting, SVMs, and Logistic Regression.
 - **Cross-Industry Solutions:** Executed FL projects for customer churn (Iberdrola, Telefonica), object detection (Leonardo, Indra), and cybersecurity threat detection (NetApp), improving the baseline benchmarks established by clients by 12% on average and allowing clients to showcase what they can do with Federated Learning.
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EDUCATION

MSc in Data Science and Data Engineering | UNED

End of Master Thesis - Meta analysis of deep learning methods for sarcopenia treatment: 8.8/10

Master's in Business Administration (Business Analytics & Big Data) | Isabel I University

BSc in Biomedical Engineering | Rey Juan Carlos University

End of Degree Thesis - Filter feature selection methods over heterogeneous datasets and their explicability/interpretability power : 9.8/10

TECHNICAL SKILLS

Programming: Python, R, Bash, Git/GitLab, SQL/CQL

Machine Learning: Deep Learning, Natural Language Processing, Computer Vision, Time Series Analysis, Federated Learning, Classical Machine Learning

Frameworks: PyTorch, TensorFlow, Scikit-learn, Pandas, Polars, Statsmodels, Optuna

DevOps & Cloud: AWS, Azure, GCP, Docker, Podman, Spark, PySpark, Cloudera, GitLab CI

Databases: MySQL/SQL Server, Neo4j, Redis, MongoDB, Cassandra

LANGUAGES

Spanish: Native

English: Advanced (C1) – Certified by Cambridge University

French: High-Intermediate (B2) – Certified by Alliance Française

Italian: Intermediate (B1) – Certified by Università per Stranieri di Siena