Jesús Blanco Molina

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Education

B.Sc. in Mathematics — University of Granada, Spain   June 2026
Relevant Coursework
Probability Theory, Statistical Inference, Numerical Analysis, Differential Equations, Functional Analysis.

Erasmus Program — TU Darmstadt, Germany   2021–2022
Relevant Coursework
- **Statistical Machine Learning**: Bayesian Decision, Hypothesis Testing, Density Estimation, Kernel Methods.
- **Deep Learning:** CNNs, RNNs, generative models, representation learning, approximate inference; PyTorch implementations of CNNs, VAEs and Transformers.

Research Interests

Statistical Learning Theory, Time Series Modeling, Explainable ML, Model Robustness, Network Security, Wireless Networks.

Projects

Bachelor Thesis (Grade 9.8/10)   Dec. 2025
Time Series Predictive Modeling of 5G Core Traffic
Granada University
- Designed a reproducible forecasting methodology for live 5G Core traffic time series using ARIMA, Prophet, and XGBoost.
- Modeled short-term traffic dynamics linking PCF signalling load to optimal discrete resource allocation.
- Conducted rolling window validation and model benchmarking; selected XGBoost based on accuracy–complexity trade-off.

Conference Paper (with Jorge Navarro)   In preparation
Extended analysis of forecasting methodology including additional network metrics.

Professional Experience

Cyber Defense Engineer — Deutsche Telekom Security, Leipzig   2025–Present
- Analyzed detection behavior in enterprise-scale security systems, focusing on rule logic and false-positive reduction.
- Constructed structured data queries to analyze log distributions over protected endpoints.
- Implemented automation workflows using Python and PowerShell to support deployment and security testing tasks.

Junior Data Engineer — Deutsche Telekom Technik, Leipzig   2023–2025
- Developed Python microservices for an anomaly detection platform based on Prophet for time series forecasting.
- Analyzed telecommunications time series (5GC, IMS) to identify temporal dependencies and operational anomalies.

Technical Skills

Programming & Systems
Python (PyTorch, NumPy, scikit-learn, pandas), MATLAB, PowerShell, Linux, Kubernetes.

Machine Learning & Modeling
Gradient boosting, stochastic processes, exploratory data analysis, feature analysis, model benchmarking.

Scientific Writing & Communication
Academic writing with LaTeX; structured technical documentation; presentation of results to interdisciplinary teams (EN / DE / ES).

Languages

Spanish (native), German (TELC C1 Hochschule), English (TOEIC B2).