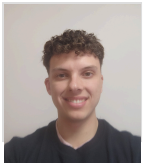

Ignacio Jolín Rodrigo

Mathematician

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BIRTHDAY
Jan 25, 2001

LOCATION
Valladolid, Spain

About Me

I am a Mathematician (BSc & MSc) with a strong passion for Artificial Intelligence Research and Data Science. My academic training has equipped me with advanced analytical and problem-solving skills, which I now apply to machine learning, statistical modeling, and algorithm development.

I excel at transforming abstract mathematical principles into real-world solutions, whether through cutting-edge AI research, scalable data systems, or innovative applications of machine learning. Currently, I'm deeply exploring Large Language Models (LLMs), generative AI, and other emerging frontiers in artificial intelligence.

Resume

Experience

Researcher In The Universidad Alcalá De Henares, Madrid

Researcher Of Generative AI Applied To Health

September 2025 - Present

- API Integration: Engineered scalable solutions by integrating third-party LLM APIs into production workflows to enhance system capabilities.
- Infrastructure & Deployment: Deployed and optimized open-source LLMs (e.g., Llama, Mistral) on private, on-premise servers, ensuring data sovereignty and reduced latency.
- NLP Evaluation Frameworks: Designed and implemented quantitative metrics and benchmarking protocols to rigorously assess the quality, accuracy, and coherence of LLM-generated summaries.
- Scientific Dissemination: Authored and structured high-impact scientific publications utilizing LaTeX for precise document formatting and technical composition.
- Cross-Disciplinary Collaboration: Partnered with clinical stakeholders in a hospital setting to align technical AI solutions with healthcare requirements and patient data privacy standards.
- Large Language Model (LLM) Optimization: Executed fine-tuning strategies on foundational models to tailor performance for specific domain tasks.

SW And Technology Department At Renault I+D+I, Valladolid

Data Science

September 2024 - June 2025

- Linux: Worked with Linux on Raspberry Pi, implementing communication protocols.
- Data Science: Developed image classification models and built a predictive model for gas consumption forecasting.
- Documentation: Created technical documentation using Jupyter Notebooks and Markdown.

Education

Universitat Politècnica De València, Spain
Master's Degree In Mathematical Research
2023 - 2024
My master's program equipped me with a dual perspective: the rigorous methodology of academic research and the pragmatic mindset of industry applications. I developed the ability to navigate between theoretical frameworks and real-world problem-solving, mastering how to adapt abstract concepts into practical solutions. This experience improved my capacity to work effectively in both environments, whether conducting structured research or delivering actionable results under technical and time constraints, while maintaining the precision of mathematical thinking at the core of my approach.

Universidad De Valladolid, Spain
Bachelor's Degree In Mathematics
2019 - 2023
I mastered the foundational principles of diverse mathematical fields, from pure to applied disciplines. Beyond technical knowledge, this rigorous training honed my ability to think in abstract terms, construct logical frameworks, and solve complex problems with structured creativity. These core skills now serve as my toolkit for tackling challenges in AI research and data science, where deep mathematical reasoning meets real-world impact.

Erasmus Exchange Program At The Universidade De Coimbra, Portugal
Bachelor's Degree In Mathematics
2021 - 2022
This marked my first experience living far from home, where I embraced the challenge of adapting to a new cultural environment. I learned to collaborate with people from diverse backgrounds, explored fascinating academic topics beyond my usual scope, and grew by stepping far outside my comfort zone.

Languages

English
Certified with B2 First – Cambridge

Spanish
Native

Chinese
Attending a HSK2 course level

Portuguese
Elementary

Hard Skills

Coding
RStudio, MATLAB, Mathrmatica, C, Bash, Python (Threading, Multiprocessing, Pillow, Keras, TensorFlow, PyTorch, Numpy)

Mathematics
Topology, Optimization, Functional Analysis, Algebra, Mathematical Modelling, Stadistics, Cryptography

Machine Learning
With a strong theoretical background: Artificial neural networks, DImension reduciton, Random forest, Convolutional neural networks, Support vector machine, Large Languages Models

OS
Linux

Version Control
Git

Technical Redaction
LaTeX, Markdown, Jupyter

Databases
SQL

Soft Skills

Abstract Problem Resolution

Effective Communication

Quick Learning Ability

Academic Research

Team Work

Publications

2025

Time Series Analysis With Persistence Landscapes: A Novel Model For Alzheimer Detection
Preprint, Accessed: 2024-07-15. DOI: 10.36227/techrxiv.174494666.69176037/v1, Valladolid, Spain
Ignacio Jolín

2024

Master's Thesis: Clasificación De Series Temporales Empleando Análisis Topológico De Datos
Valencia, Spain
Ignacio Jolín, Antonio Falcó

Introduction To Knot Theory
XI Congreso del Máster en Investigación Matemática y Doctorado en Matemáticas, Universitat de València, Spain
David Campos-Abad, **Ignacio Jolin-Rodrigo**, Clara Soler-Signes

2023

Bachelor's Thesis: Lema De Sperner Y Topología Simplicial
Valladolid, Spain
Ignacio Jolín-Rodrigo, Jesús Dominguez

Projects

GPT Form Scratch
In this repository, I explain most of the mathematical concepts from a GPT model, explaining how the transformers and other concepts works
`Git: GPT_from_scratch`

Reinforcement Learning Agent
A DQN agent that navigates a square toward a target circle on the screen avoiding obstacles
`Git: Reinforcement-Learning`

Dimension Reduction Theory
Jupiter file with the theory of the main dimension reduction algorithms
`Git: Dimension-Reduction-Theory`

Data Science Tips
Jupiter file with some tips for data science and practical examples
`Git: Data-Science-Tips`