# Manel Soler Sanz

Location: Valencia, Spain (Open to remote)

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Personal Website: https://sosanzma.github.io/

## PHYSICIST | DATA SCIENTIST | AI RESEARCHER

With a strong background in Physics and a Master's in Data Science, I specialize in developing and implementing advanced AI solutions, with a focus on Multi-Agent Systems, Large Language Models (LLMs), and Retrieval-Augmented Generation (RAG).For a more comprehensive overview of my work and interests, please visit my personal website: https://sosanzma.github.io/

## TECHNICAL SKILLS

| | | |
|---|---|---|
| **Languages** | : | Python (3+ years), R, Matlab, C++ |
| **Frameworks** | : | TensorFlow, PyTorch, Keras, Linux, Windows, AWS, Jenkins, Airflow, Azure |
| **Libraries** | : | scikit-learn, pandas, pyspark, Langchain, Hugging Face Transformers |
| **Databases** | : | MongoDB, SQL, Vector DB |
| **Dev Tools** | : | Docker, Git, Pycharm, VisualStudio, Cursor |
| **AI/ML** | : | Multi-Agent Systems, LLMs, RAG, Deep Learning, ML Model Deployment |

## EXPERIENCE

**AI Researcher**                                                                                     Feb 2024 – Present
*VRAIN - Valencian Research Institute for Artificial Intelligence*                          *Valencia, Spain*

- Developing advanced Multi-Agent Systems for AI applications
- Implementing and fine-tuning Large Language Models (LLMs) for specific tasks
- Researching and applying Retrieval-Augmented Generation (RAG) techniques
- Collaborating on cutting-edge AI research projects
- **Technologies used:** XMPP, Llamaindex, Hugging Face Transformers, Langchain
- **GitHub Repository:** Link

**Data Scientist**                                                                                     Jan 2023 – Feb 2024
*Solver Intelligent Analytics*                                                                        *Valencia, Spain*

- Developed and deployed Deep Learning models (RNNs, CNNs, attention layers) for various business applications
- Implemented real-time ML models using cloud services (AWS), focusing on scalable architectures
- Led a route optimization project using advanced clustering algorithms and deep reinforcement learning
- Applied state-of-the-art Deep Learning techniques to time series forecasting and resource planning
- **Technologies used:** TensorFlow, PyTorch, AWS, Pyspark, Jenkins, Airflow, MLFlow

**Junior Data Scientist**                                                                            Sept 2022 – Jan 2023
*Solver Intelligent Analytics*                                                                        *Valencia, Spain*

- Developed time series prediction models using traditional ML and basic Deep Learning techniques
- Gained hands-on experience in ML model deployment using Airflow and Jenkins
- Assisted in prototyping ML-based solutions for various client projects

## EDUCATION

**Universitat de Valencia**                                                                          Valencia, Spain
*Master of Data Science*                                                                              *Sep 2021 – Feb 2023*

- Advanced coursework in Deep Learning, including neural network architectures, optimization algorithms, and regularization techniques
- Master's thesis: Implementation of causal discovery methods for time series, applying deep learning techniques. Source Code

**Universitat de Valencia**                                                                          Valencia, Spain
*Bachelor of Physics*                                                                                 *Sep 2016 – Jul 2021*

- Specialization in theoretical physics. Thesis focused on NLP and symbolic AI
- Degree thesis: *Symbolic artificial intelligence: first order differential equations*
- Article published on IFIC's website about final thesis

## Self-Driven Learning & Projects

**AI-Powered Personal Projects**      2024 – Present
*Open Source Development*      *Valencia, Spain*

- Developed multiple AI-driven projects showcasing practical applications of NLP and LLMs
- Implemented advanced techniques including RAG, vector databases, and multi-agent systems
- Utilized key technologies: Langchain, Hugging Face Transformers, Deep Lake, OpenAI API
- Projects include:
- **QA Bot with Source Verification:** GitHub
- **LearnSherpa AI (Book Discovery Assistant):** GitHub

**Completed Courses**

- \* Retrieval Augmented Generation for Production with LangChain & LlamaIndex
- \* LangChain & Vector Databases in Production
- \* Docker, from beginner to expert
- \* Amazon AWS: Complete Course Certified Solutions Architect
- \* Deep Learning Specialization - Coursera (Andrew Ng)

## Languages 🈂

**English** · Proficient
**Spanish** · Native
**Catalan** · Native
**German** · Beginner