Tomás Somoza

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Experience

Crédit Agricole CIB - Paris Sept. 2023 - Present

Model Risk Quantitative Analyst - CDI *Python, Git*

- **Independent Review of AI models** across many business lines of the bank.
- Contributing to the implementation of the bank's **AI Risk framework**.
- Maintaining/Contributing to internal library.
- Participated in projects on **Graph Neural Networks (GNN)** and algorithms for **Unsupervised Learning**.

Crédit Agricole CIB - Paris Sept. 2022 - Sep. 2023

Model Risk Quantitative Analyst - Apprenticeship *Python, Git, Transformers, LLM*

- **Fine-tuning BERT-like models** to scan documents and identify vulnerabilities in professional reports.
- Built a **demo in Streamlit** to provide visualization support and extra features.
- Conducted a **literature review on interpretability** methods for LLM's applying

Education

Université Paris 1 Panthéon-Sorbonne Jan. 2022 - Jul. 2023
Models and Methods of Quantitative Economics (QEM) Erasmus Mundus Joint Master Degree
Complementary specialization in Finance via M2 IRFA.
Relevant courses:
Stochastic Calculus, Dervative Pricing, Yield Curve Modelling, Asset Liability Management, Market Risk Measures, Data Science, C++ and Advanced Python.

Università Ca'Foscari Venezia (UNIVE) Sept. 2021 - Jan. 2022
Models and Methods of Quantitative Economics (QEM) Erasmus Mundus Joint Master Degree
Relevant Courses: Macroeconomics, Microeconomics, Optimization and Probability.

Universidade de Santiago de Compostela (USC) Sept. 2017 - Jul. 2021
B.S. in Physics | Link to all courses
Relevant Courses: Advanced Calculus, Linear Algebra, Complex Variable, Classical Mechanics, Thermodynamics, Quantum Mechanics (I, II, III), Biophysics, Complex Phenomena, Statistical Mechanics

Projects

Thesis: Critical Crises of the Markets Jan. 2021 - Jul. 2021

Understanding financial bubbles using models of magnetism. *Python*

- Literature review on Sornette's log-normal model, often termed the "log-periodic power law" model, that predicts financial market crashes.
- It describes how the accelerated super-exponential growth of asset bubbles, punctuated by oscillations, can signal an imminent market crash.
- Test on the Spanish index IBEX35 to challenge the claim.

Github with Projects Sep. 2022

Github profile containing portfolio of projects *Python, JavaScript, HTML, C++, Julia*

- Personal projects: on Graph Theory for Machine Learning (on-going) for example.
- University projects: C++ project on Market Risk Measures for example.

Leadership and Volunteering

Cooperación Internacional ONG Jul. 2019 - Aug. 2019

International Volunteering - Yaoundé, Cameroon

- The main goal was to help building a school for the children of the place.
- We carried out several activities to help them to develop healthy psychomotor skills, or to learn new languages.

Skills

Languages:
Python, C++, Julia

Technologies & Tools:

Git, LaTeX, PyTorch, scikit-learn

Certifications:

Dataiku Core Designer, Machine Learning