

# Tomás Somoza

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## Experience

### Crédit Agricole CIB - Paris

Sept. 2023 - Present

#### Model Risk Quantitative Analyst - CDI

Python, Git, Transformers, PyTorch

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

### Crédit Agricole CIB - Paris

Sept. 2022 - Sep. 2023

#### Model Risk Quantitative Analyst - Apprenticeship

Python, Git, Transformers, PyTorch

- **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.

## 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, Derivative Pricing, Yield Curve Modelling, ALM, Market Risk Measures, C++

### 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. 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 GNN, Podcast Transcriber, Football Players Recognition, or Flask website to practice quantitative interviews.
- 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 goal was to help building a new school for the children. Several activities to help them to develop healthy psycho-motor skills, or to learn new languages.

## Skills

### Languages:

Python, C++, Julia

### Technologies & Tools:

Git,  $\LaTeX$ , Numpy, PyTorch, scikit-learn, pandas, polars, Transformers, Streamlit, Gradio, Flask