Pietro Patelli

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Passionate about Economics, Finance and Data Science

Skills

`programming` `data science` `economics` `finance` `market data` `econometrics` `big data tools` `networks` `llms` `machine learning` `databases` `linux`

Programming: Python, SQL, R, MATLAB, Bash, Vimscript, LaTeX, HTML, CSS

Tools: Git, Github, Docker, Hadoop, Spark, CDSW, STATA, Bloomberg, Refinitiv, Tableau, MS Office Suite

Languages

English: C2, main working language · **Italian**: Native · **Spanish**: B2 · **German**: B2

Experience

Bank for International Settlements & Financial Stability Board

Senior Data Scientist

2024–present, Basel, Switzerland

- I contribute to reports, monitoring exercises and publications by the FSB.

Technologies used: Python; SQL; MATLAB.

Financial Market Analyst

2024–2024, Basel, Switzerland

- I contributed to reports, monitoring exercises and publications by the FSB.

Technologies used: Python; SQL; MATLAB; STATA.

Bank for International Settlements

Financial Market Analyst, International Assignment

2023–2024, Hong Kong, Hong Kong SAR

- I worked on policy notes, monitoring exercises and research pieces with a particular focus on Asia Pacific and Emerging Market Economies.
- I contributed to regular monitoring meetings for the region, both directly covering countries and producing broader analyses.

Technologies used: MATLAB; Python; STATA; Gephi.

Financial Market Analyst

2021–2023, Basel, Switzerland

- I worked on one of the flagship policy publications, the Quarterly Review, as well as several other research and policy pieces.
- I was responsible, on the Analysts' side, for the main internal regular monitoring exercise.
- I was responsible for several datasets, and the onboarding of some new data sources.
- I contributed to the onboarding of new technologies and the development of new processes, and to improved documentation and efficiency for existing pipelines.
- I produced newsletters and other material circulated to internal and external stakeholders.

Technologies used: Python; MATLAB; Bloomberg; Refinitiv; SQL; Tableau; Git; Azure DevOps; Github.

European Central Bank

Data Science Analyst

2021–2021, Frankfurt am Main, Germany

- I was part of the Derivatives Team, managing a large and complex dataset of transactions reported under EMIR, using mainly python, SQL and big data tools.
- I worked mainly on testing new processes and analysing new types of data to identify quality and reporting issues.
- I produced newsletters and analyses disseminated to internal and external stakeholders.
- I developed a python module to aid regular tasks and provide tools able to handle new issues that the existing system could not address.

Technologies used: Python; SQL; Hadoop; Spark; Oracle; Git; Bitbucket.

Statistics - Data Science Trainee

2020–2021, Frankfurt am Main, Germany

- I extended monitoring tools for the collection of data and the daily production.
- I contributed to communication with internal and external stakeholders.
- I managed accesses to the dataset and provided support to users of the data.

Technologies used: Python; SQL; Hadoop; Spark; Oracle; Git; Bitbucket.

Universitat Pompeu Fabra

Research & Teaching Assistant

2018–2019, Barcelona, Spain

- I worked on empirical projects involving diverse datasets, from newspaper text data to geographic electoral data.
- I built an algorithm in Python for the digitalization of a particular form of text data.
- I performed web scraping and text processing in Python and preparatory data analysis.
- I taught seminars for “International Financial Economics” and “Introduction to Macroeconomics”.

Technologies used: Python; STATA.

IESE Business School

Research Assistant
2017–2018, Barcelona, Spain

- I was involved in a number of research projects, ranging from an empirical study of income shocks to work on the regulatory treatment of NPLs across the Eurozone.
- I contributed to data cleaning, data visualization and literature reviews.

Technologies used: Python; R; STATA.

Projects

SDMX-dashboard-generator: An open-source Dash application that generates dynamic dashboards by pulling data and metadata from SDMX Rest API. Originally developed for the SDMX Hackathon Global Conference 2023.

Education

MRes Economics, Finance and Management
2017–2019, **Universitat Pompeu Fabra** *Barcelona, Spain*

MSc Economics and Finance
2016–2017, **Barcelona School of Economics** *Barcelona, Spain*

BA (Hons) Economics
2013–2016, **University of Cambridge** *Cambridge, UK*

Courses and Certifications

University of Edinburgh Summer School Market Microstructure *2025 Edinburgh, UK*

Dartmouth College and IMT C Programming with Linux *2025, Online via edX*

Euromoney Derivatives. *2023 London, UK*

London School of Economics Tools for Macroeconomists: Advanced Tools. *2019 London, UK*

London School of Economics Tools for Macroeconomists: The Essentials. *2019 London, UK*

Awards & Recognition

2023 SDMX Hackathon Co-Winners

Team Math Olympiads Top three national placement twice

MATEprism math games National second place

Publications

Patelli, P., Shek, J., & Shim, I. (2023). *Lessons from recent experiences on exchange rates, capital flows and financial conditions in EMEs* (No. 79). Bank for International Settlements

Gelos, G., Patelli, P., & Shim, I. (2024). *The US dollar and capital flows to EMEs*. BIS Quarterly Review, 51-67.

Gambacorta, L., Kwon, B., Park, T., Patelli, P., & Zhu, S. (2024). *CB-LMs: language models for central banking* (No. 1215). Bank for International Settlements.