Romain Legrand

42 years old

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Quant researcher, econometrician, economist and data scientist

Profile

Accomplished quantitative researcher, econometrician, economist and data scientist with 10 years of experience in central banking and the finance industry.

Professional experience

Since May 2021

Quantitative researcher

Qube research and Technologies Paris, France

- Developed macroeconometric models (Bayesian VARs, Phillips curves, Taylor rules, Nelson-Siegel) and machine learning models (neural networks, XGBoost and random forests) to generate global macro signals and implement investment strategies.
- Designed and coded nowcasting models (dynamic factor models) to predict macroeconomic conditions and generate macroeconomic alpha on a daily basis.
- Created a full Database of point-in-time macroeconomic indicators based on Datastream.
- Enhanced classical investment strategies with macro indicators, e.g. macro trends for momentum, real activity indicators for FX carry, or real business cycles for equity value.

From September 2020 to April 2021

Quantitative researcher

Capital Fund Management Paris

- Developed and coded a wide range of predictive models for the main macroeconomic aggregates: econometrics (VAR, Bayesian VAR, time-varying Bayesian VAR), nowcasting (dynamic factor model, MIDAS regression, mixed frequency Bayesian VAR), and machine learning (LSTM, random forest and gradient boosting).
- Realised a systematic comparison of the predictive and directional performances of the different models.

From September 2014 to December 2018

Econometrician and economist

European Central bank Frankfurt-am-Main, Germany

- Developed the Bayesian Estimation, Analysis and Regression (BEAR) Toolbox, an advanced Bayesian time-series software for forecasting and economic/financial analysis.
  More about BEAR: https://www.ecb.europa.eu/pub/pdf/scpwps/ecbwp1934.en.pdf
- Organised and animated research seminars in econometrics. Contributed to scientific articles. Trained economists to Bayesian econometric methods.
- Drafted economic articles and policy notes.

Education

From 2019 to 2020

Post-Master's degree in Big data

Télécom ParisTech Paris

From 2008 to 2014

PhD in Economics, with a specialization in econometrics and time-series methods

University of Cergy Pontoise - ESSEC Business School Cergy

From 2007 to 2008

Research Master in Economics

University of Cergy-Pontoise / ESSEC Business School Cergy

From 2003 to 2007

Sciences Po

Institute of Political Studies Lyon

From 2001 to 2004

Bachelor in Foreign Languages, English and Chinese

University Jean Moulin Lyon 3 Lyon

Publications and Working papers

- Time-varying Vector Autoregressions: efficient estimations, random inertia and random mean. *MPRA working paper, August 2019.*
- The Bayesian Estimation, Analysis and Regression (BEAR) toolbox – with Alistair Dieppe and Björn Van Roye. *ECB Working Paper Series No. 1934, July 2016.*
- Euro introduction: has there been a structural change? Study on 10 - European Union countries. *Economic Modelling No. 40, June 2014.*
- L'effet dynamique des chocs d'offre et de demande agrégés. Une étude sur le cas allemand. (The dynamic effect of aggregate supply and aggregate demand shocks: study on the German case). *Revue Economique No. 63, January 2012.*

Personal projects

Alexandria: Alexandria is a new software/library for Bayesian econometrics and time-series models. It is free and double-coded in Matlab and Python. It comes with a series of free books that provide full theory and algebraic derivations behind the models.
Video presentation of the software: https://www.youtube.com/watch?v=h7keRgyKszg
Alexandria website, with all downloads: https://lnkd.in/euKQC3hj
Alexandria Github repo, with all downloads: https://lnkd.in/ezqUinWF

Technical skills

High proficiency:
- Python - Numpy, Pandas, Matplotlib, ScikitLearn, Keras, Tensorflow
- Matlab - Dynare
- Github / Gitlab
- Office Suite

Intermediate proficiency:
- Sql-NoSql (PostgreSQL, Cassandra)
- distributed frameworks (Spark, Hadoop)
- Java programming

Personal interests

Martial arts

Swimming

Travelling

Languages

French: native

English: fluent