Alexis Marchal

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EDUCATION

Ph.D. Candidate in Finance *2016 - Aug. 2021 (expected)*
EPFL & Swiss Finance Institute
Advisors: Pierre Collin-Dufresne and Julien Hugonnier

M.Sc. dual degree in Economics *2014 - 2016*
University of Geneva & Economics School of Louvain

B.Sc. Economics and Management *2011 - 2014*
Université Catholique de Louvain

WORKING PAPERS

Risk & returns around FOMC press conferences: a novel perspective from computer vision, 2020

Presentations: AFFI (2021), Intelligent Systems (IntelliSys) (Amsterdam, 2021)

Deep Learning for Asset Bubbles Detection, 2020 with Oksana Bashchenko

Presentations (*incl. by co-authors): EPFL-UNIL Brown Bag (Lausanne, 2020), SFI Research Days* (Gerzensee, 2020), Webinar DISA-LNU: stochastic analysis, statistics and machine learning* (2020), Webinar B-TU Cottbus-Senftenberg on: Stochastics* (2020)

Deep Learning, Jumps, and Volatility Bursts, 2019 with Oksana Bashchenko

Presentations (*incl. by co-authors): EPFL-UNIL Brown Bag* (Lausanne, 2019), Workshop on the Systemic Impact of Digitalization on Finance (Zurich, 2019), Young Swiss Economists Meeting - YSEM* (Poster session, Zurich, 2020), SFI Research Days (Gerzensee, 2020), Webinar DISA-LNU: stochastic analysis, statistics and machine learning (2020)

An Equilibrium Model of Decentralized & Walrasian Markets, 2019

Presentations: SFI Research Days (Gerzensee, 2019)

WORK IN PROGRESS

Research Team in the Finance Crowd Analysis Project (fincap)

News analysis with BERT

COMPUTER SKILLS

- Python:
  - Time-Series: Pandas, NumPy, Scikit Learn, Statsmodels
  - NLP: Hugging Face, PyTorch
  - Computer Vision: OpenCV, Dlib, Keras, TensorFlow
- Others: Matlab, Mathematica, Stata, Git, LaTeX, Web scraping (with Selenium)

TECHNICAL SKILLS

- Deep Learning (CNN, LSTM, BERT)
- Time-Series Analysis, Stochastic Calculus, Option Theory

RESEARCH INTERESTS

Asset Pricing, Machine Learning

EXPERIENCE

Teaching assistant *2018 - present*
Derivatives (Prof. Julien Hugonnier), EPFL

- Course content: Pricing theory for European and American options in discrete and continuous time (trees and PDEs)
- Responsibilities: Hold weekly exercise sessions, grade weekly assignments and exams

AWARDS AND FELLOWSHIPS

Best teaching assistant of 2020 class, Master in Financial Engineering (MFE), EPFL

Swiss Finance Institute PhD student fellowship, 2016-2017

LANGUAGES

French (native)
English (fluent)

MISCELLANEOUS

PhD Student Representative, Doctoral Program in Finance, EPFL *Oct. 2019 - present*