Patrick Aschermayr

Seeking a challenging and research-driven environment where I can develop and make a meaningful contribution.

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PROFESSIONAL SUMMARY

- Researcher with experience applying Bayesian methods to financial markets
- Expert in incorporating practitioner knowledge and market intuition into quantitative models through Bayesian priors and hierarchical frameworks
- Adept at building production systems with ability to quickly pivot between research topics

RESEARCH EXPERTISE

- Sequential Bayesian learning for dynamic model estimation and validation
- Regime detection algorithms for structural break identification
- Monte Carlo frameworks for high-dimensional probabilistic inference

WORK EXPERIENCE

Brevan Howard (FT) 2023 –
Quantitative Researcher Geneva, CH

- Built uncertainty quantification framework for probabilistic regime detection, transition analysis and risk assessment
- Developed joint forecast aggregation system to extract market expectations from analyst predictions
- Created herding and clustering algorithms to measure forecaster behavioral patterns and dynamics

University of Zurich & ZZ (Schweiz) AG (PT) 2016 – 2018
PMP - Portfolio Manager & Analyst Zurich, CH

- Global Macro strategy with focus on Carry and Value

Deutsche Bank (INTERN) 10/2015 – 07/2016
Research - Strategic Beta Intern
Portfolio Management - Multi Asset Intern Frankfurt, GER

EDUCATION

London School of Economics and Political Science 2018 – 2023
Doctor of Philosophy London, UK
Statistics
Thesis: Sequential Bayesian Learning for State Space Models

ETH Zurich, University of Zurich 2016 – 2018
Master of Science Zurich, CH
Quantitative Finance
GPA: 5.4 (Best: 6.0)

Vienna University of Economics and Business 2012 – 2015
Bachelor of Science Vienna, AUT
Economics, Business and Social Sciences
GPA: 1.3 (Best: 1.0)

CORE SKILLS

Statistical	Bayesian Statistics
Machine Learning	Estimation, Prediction, Nowcasting Model Selection and Validation Uncertainty Quantification Dimensionality Reduction
Probabilistic Models	State Space Models Mixture Models Regime and Changepoint Detection
Algorithms	Markov Chain Monte Carlo Sequential Monte Carlo Variational Inference/Optimization Particle Filtering
Computing	Python, Julia, R
Software	PyMC, Stan, Turing SK-Learn, mlxtend, Darts Numpy/Pandas/DataFrames
Deployment	Linux Distributed Computing (AWS, JuliaHub) Version Control (Git, GitHub)
Infrastructure	Data Visualization (Dash, Plotly) Data Pipeline Engineering
Financial Modeling	Herding and Crowding Detection Time Series Analysis Forecast Aggregation Methods Bottom-up Analysis
Data Engineering	Feature Generation and Selection Missing Data Imputation Manipulation and Exploration
Data Provider	Bloomberg, BQuant Compustat, WorldScope
Soft Skills	Critical Thinking Adaptability Problem Solving
Communication	Oral (Teaching, Seminars, Conferences) Written (Papers, Editing, Blogging) Project Management (PhD Thesis) Teamwork (Collaborations)

MISCELLANEOUS

Languages	German (Native), English (Fluent)
Interests	Books (fantasy, manga) Sports (football, fitness) Cooking (Austrian, Asian) Gaming (Magic, Pokemon, Fire Emblem)

PUBLICATIONS

Working Papers

Aschermayr, P., Kalogeropoulos, K., (2023). Sequential Bayesian Learning for Hidden Semi-Markov Models

Aschermayr, P., Demiris, N., Kalogeropoulos, K. (2023). SIR-type State Space Models with Piecewise Constant Transmission Rates

Aschermayr, P., Beskos, A., Kalogeropoulos, K., Nikolopoulos, A. (2023). A Class of Stochastic Volatility Models with Copula Dependencies

PhD Thesis

Aschermayr, P. (2023). Sequential Bayesian Learning for State Space Models

Conferences and Presentations

06/2022 I presented my working paper *Sequential Bayesian Learning for Hidden Semi-Markov Models* at the IMS 2022 in London, UK.

05/2019 I presented my Particle MCMC poster at the Social and Economic Data Science Summit in London, UK.

GRANTS AND FELLOWSHIPS

2018 – 2022 Economic and Social Research Council (ESRC) studentship

TEACHING EXPERIENCE

London School of Economics

2022 Bayesian Inference - Teaching assistant, third year Bachelor level
2021 Bayesian Inference - Teaching assistant, third year Bachelor level
2020 Bayesian Inference - Teaching assistant, third year Bachelor level
2019 Quantitative Methods - Teaching assistant, first year Bachelor level

SERVICE

Journal Peer Review

2020 Journal of the Royal Statistical Society: Series C (Applied Statistics) - Referee