Patrick Aschermayr

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

Austria
p.aschermayr@gmail.com
https://paschermayr.github.io
https://github.com/paschermayr
https://linkedin.com/in/patrickaschermayr
https://twitter.com/PAschermayr

RESEARCH EXPERTISE

- Thesis: **Sequential Bayesian Learning for State Space Models**
- Model estimation and inference in a batch and times series setting
- High performance computing and unit testing, see GitHub profile
- Multiple collaborations and research presentations, see Publications

WORK EXPERIENCE

(PT) 2016 – 2018
University of Zurich & ZZ (Schweiz) AG — Zurich, CH
PMP - Portfolio Manager & Analyst
- Global Macro strategy with focus on Carry and Value
- Collaborated with 3 colleagues to manage 2mn€university endowment
- Implemented a forecasting and global macro reporting tool

(INTERN) 04/2016 – 07/2016
Deutsche Bank — Frankfurt, GER
Research - Strategic Beta Intern
- Created performance- & factsheets for mandates
- Supported launch of Deutsche Asset model & strategy portfolios

(INTERN) 10/2015 – 03/2016
Deutsche Asset Management — Frankfurt, GER
Portfolio Management - Multi Asset Intern
- Optimized index forecasting tool, sector update & new issue sheet
- Assisted PMs in making presentations for roadshows and reports

OPEN SOURCE SOFTWARE DEVELOPMENT

(03/2022 –) ONGOING
Baytes.jl - Author
- Framework for Sequential Bayesian Inference
- Combines Markov Chain and Sequential Monte Carlo methods
- See BaytesMCMC.jl, BaytesFilters.jl, BaytesPMCMC.jl or BaytesSMC.jl

(01/2022 –) ONGOING
ModelWrappers.jl - Author
- Framework to represent parameters as (nested) tuples or vectors
- Parameters can be shown in constrained or unconstrained domain
- Compatible with multiple Automatic Differentiation frameworks

PERSONAL PROJECTS

(09/2020 – 12/2020) COMPLETED
State Space Models Everywhere
- Blog series on my website introducing HMMs and HSMMs
- Built an estimation framework from scratch for such models

EDUCATION

2018 – 2023, LONDON, UK
Doctor of Philosophy
Statistics
London School of Economics and Political Science
FULLY FUNDED BY THE ESRC

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

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

CORE SKILLS

Statistical Machine Learning	Bayesian Statistics Estimation Prediction Latent Variable Models
Algorithms	Markov Chain Monte Carlo Sequential Monte Carlo Variational Inference/Optimization
Computing	Julia, R, Python
Deployment	Linux Distributed Computing (JuliaHub) Version Control (Git)
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)
Involvement	LSE PhD student representative Zurich QFin Alumni Club Local tennis and table football club
Interests	Books (fantasy, manga) Sports (football, fitness) Cooking (Austrian, Asian) Gaming (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