Patrick Altmeyer

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Employment

Bank of England

Economist (London, UK) 2018-2020

Co-initiated and led the development of an analysis tool that is still used internally today.
Conducted research and analysis as co-author of staff working papers on yield curve pricing and the demand for central bank reserves.
Policy briefing work for the Monetary Policy Committee and Financial Policy Committee involving econometric data analysis, presentations and speaking notes.

Education

Delft University of Technology

Ph.D. Computer Science 2021-2025

Published research on Counterfactual Explanations, Predictive Uncertainty Quantification and Mechanistic Interpretability in top-tier venues: ICML, AAAI, IEEE SaTML.
Founded and maintained Taija, an open-source software organization for Trustworthy Artificial Intelligence in Julia.
Presented at JuliaCon Global for three consecutive years.
Supervised multiple bachelor's and master's theses as well as software projects on related research topics.

Barcelona School of Economics (BSE)

Master's Degree in Data Science, GPA 8.67/10 2020-2021

Dissertation: Deep Vector Autoregression for Macroeconomic Data (9.5)
Relevant modules: Machine Learning (9.0), Reinforcement Learning (10.0)

Master's Degree in Economics and Finance, GPA 9.03/10 (top student) 2017-2018

Dissertation: Option Pricing in the Heston Stochastic Volatility Model (10.0)
Relevant modules: Financial Econometrics (10.0), Pricing Financial Derivatives (9.3)

The University of Edinburgh

Master of Arts with Honours in Economics, First Class (among top three students) 2013-2017

Dissertation: Can misguided monetary policy explain the European housing bubble? (82%)
Honours modules: Economics of Financial Markets (86%), Adv. Mathematical Economics (79%), Behavioural Economics (71%), Economics of Asymmetric Information (74%)

Skills

Languages: German (native), English (fluent), Spanish (intermediate), Dutch (intermediate)
Programming: Julia, R, Python, MATLAB, C++, SQL, git, Bash, Quarto, LaTeX

Selected Awards & Honours

2nd Prize Winner of JuliaCon Pluto Notebook Competition. (2023)
1st Prize Winner of ING Experiment Week. (2023)
Full scholarship for master's in data science awarded jointly by Bank of England and BSE. (2020)

Full scholarship for master's in economics and finance awarded BSE. (2017)
Edinburgh University School of Economics Joint Prize for the best performance in Economics. (2017)
School of Economics Prize for academic excellence in Economics. (2014)

Publications

Agustí, Marc, Ignacio Vidal-Quadras Costa, and Patrick Altmeyer. 2023. "Deep Vector Autoregression for Macroeconomic Data." *IFC Bulletins Chapters* 59.

Altmeyer, Patrick, Giovan Angela, Aleksander Buszydlik, Karol Dobiczek, Arie van Deursen, and Cynthia CS Liem. 2023. "Endogenous Macrodynamics in Algorithmic Recourse." In *2023 IEEE Conference on Secure and Trustworthy Machine Learning (SaTML)*, 418–31. IEEE.

Altmeyer, Patrick, Andrew M Demetriou, Antony Bartlett, and Cynthia CS Liem. 2024. "Position: Stop Making Unscientific AGI Performance Claims." In *International Conference on Machine Learning*, 1222–42. PMLR.

Altmeyer, Patrick, Arie van Deursen, and Cynthia C. S. Liem. 2023. "Explaining Black-Box Models through Counterfactuals." In *Proceedings of the JuliaCon Conferences*, 1:130.

Altmeyer, Patrick, Mojtaba Farmanbar, Arie van Deursen, and Cynthia C. S. Liem. 2024. "Faithful Model Explanations through Energy-Constrained Conformal Counterfactuals." In *Proceedings of the Thirty-Eighth AAAI Conference on Artificial Intelligence*, 38:10829–37. 10. https://doi.org/10.1609/aaai.v38i10.28956.

Hengst, Floris, Ralf Wolter, Patrick Altmeyer, and Arda Kaygan. 2024. "Conformal Intent Classification and Clarification for Fast and Accurate Intent Recognition." In *Findings of the Association for Computational Linguistics: NAACL 2024*, 2412–32.

Technical Reports

Altmeyer, Patrick. 2017. "Can Misguided Monetary Policy Explain the European Housing Bubble?"

Altmeyer, Patrick, Leva Boneva, Rafael Kinston, Shreyosi Saha, and Evarist Stoja. 2023. "Yield Curve Sensitivity to Investor Positioning Around Economic Shocks." Bank of England working papers 1029. Bank of England. https://doi.org/None.

Altmeyer, Patrick, Jacob Daniel Grapendal, Makar Pravosud, and Gand Derry Quintana. 2018. "Option Pricing in the Heston Stochastic Volatility Model: An Empirical Evaluation." Master's thesis.

Preprints

Buszydlik, Aleksander, Patrick Altmeyer, Cynthia CS Liem, and Roel Dobbe. 2024. "Grounding and Validation of Algorithmic Recourse in Real-World Contexts: A Systematized Literature Review."

References

Available upon request.