

# PATRICK ALTMAYER

## Researching Trustworthy Artificial Intelligence (AI) for Finance and Economics

I am an economist by background with an interest in cross-disciplinary research on the intersection of Trustworthy AI and Financial Economics. For my PhD in Trustworthy AI, I currently focus on Counterfactual Explanations and Probabilistic Machine Learning under supervision of [Cynthia Liem](#) at [Delft University of Technology](#).

## CONTACT INFO

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For more information, please contact me via email.

## EDUCATION

2025   2021	<b>PhD in Computer Science</b> Delft University of Technology	📍 Delft, Netherlands
	Thesis topic: Trustworthy Artificial Intelligence	
2021	<b>Master in Data Science</b> Barcelona School of Economics	📍 Barcelona, Spain
	Thesis: Deep Vector Autoregression for Macroeconomic Data	
2018	<b>Master in Finance</b> Barcelona School of Economics	📍 Barcelona, Spain
	Thesis: Option Pricing in the Heston Stochastic Volatility Model	
2017	<b>Master of Arts with Honours in Economics</b> University of Edinburgh	📍 Edinburgh, United Kingdom
	Thesis: Can misguided monetary policy explain the European housing bubble?	

## SKILLS

Experienced in Machine Learning, Finance, Economics and Monetary Policy.

Highly skilled in Julia, R, Python and Markdown.

Solid knowledge of C++ (Rcpp), SQL, MATLAB, Stata, HTML, CSS, git, docker, AWS and LaTeX.

## PROFESSIONAL EXPERIENCE

2021   2018	<b>Economist</b> Bank of England	📍 London, United Kingdom
	<ul style="list-style-type: none"><li>• Co-author of two staff working papers (upcoming).</li><li>• Co-initiated and led app development.</li></ul>	<ul style="list-style-type: none"><li>• Briefing work for policy committees.</li></ul>
2017	<b>Postgraduate Intern</b> Bank of England	📍 London, United Kingdom
	<ul style="list-style-type: none"><li>• Econometric analysis of transaction data set in R.</li></ul>	<ul style="list-style-type: none"><li>• Internal presentation of project results.</li></ul>

*Last updated on 2022-04-30.*



## TEACHING EXPERIENCE

2022	<b>Research project</b> Research supervisor for group of students <ul style="list-style-type: none"> <li>• Proposal of final-year research project on Endogenous Dynamics in Algorithmic Recourse.</li> <li>• Supervision of group of three undergraduate students working on the project.</li> </ul>	📍 Delft, Netherlands
2021	<b>Foundations of Data Science Summer School</b> Teaching Assistant at Barcelona School of Economics	📍 Barcelona, Spain
2020   2019	<b>Introduction course to R and Git</b> Lead Trainer at Analytics Enablement Hub, Bank of England.	📍 London, United Kingdom
2017   2016	<b>Honours Modules in Econometrics</b> Teaching assistant at School of Economics, University of Edinburgh	📍 Edinburgh, United Kingdom



## SELECTED PUBLICATIONS AND POSTERS

2022	<b>Yield Curve Sensitivity to Investor Positioning Around Economic Shocks</b> Bank of England Staff Working Paper (upcoming) <b>Altmeyer P.</b> , Boneva L., Kinston R., Saha S., Stoja E.	📍 London, United Kingdom
2021	<b>Deep Vector Autoregression for Macroeconomic Data</b> Masters Thesis (selected for publication): <a href="#">[PDF]</a> , <a href="#">[GitHub]</a> Agustí M., <b>Altmeyer P.</b> , Vidal-Quadras Costa I.	📍 Barcelona, Spain
2018	<b>Option Pricing in the Heston Stochastic Volatility Model: an Empirical Evaluation</b> Masters Thesis (selected for publication): <a href="#">[PDF]</a> <b>Altmeyer P.</b> , Grapendal J., Pravosud M., Quintana G.	📍 Barcelona, Spain



## CONFERENCES AND WORKSHOPS

2022	<b>IFC and Bank of Italy workshop on “Data science in central banking”</b> Presentation of Altmeyer, Agustí, and Vidal-Quadras Costa (2021): <a href="#">[url]</a> , <a href="#">[YouTube]</a>	📍 Virtual
2021	<b>NeurIPS 2021 MLECON Workshop</b> Poster presentation of Altmeyer, Agustí, and Vidal-Quadras Costa (2021): <a href="#">[url]</a>	📍 Virtual
2021	<b>IFABS 2021 Oxford</b> Presented our BoE Staff Working Paper on yield curve pricing	📍 Virtual
2019	<b>Money markets and Central Bank Balance Sheets</b> Presented research on demand for central bank reserves at ECB: <a href="#">[url]</a>	📍 Frankfurt, Germany



## SELECTED OPEN-SOURCE SOFTWARE

2021- 2022	<b>CounterfactualExplanations.jl</b> Julia package for Counterfactual Explanations: <a href="#">[stable docs]</a> , <a href="#">[GitHub]</a>
2021- 2022	<b>BayesLaplace.jl</b> Pure-play Julia package for effortless Bayesian Deep Learning: <a href="#">[dev docs]</a> , <a href="#">[GitHub]</a>

2021-  
2022

### **deepvars**

R package implementing Deep Vector Autoregression (Altmeyer, Agusti, and Vidal-Quadras Costa 2021):  
[GitHub]



## OUTREACH AND VOLUNTEERING

2022  
|  
2021

### **Personal blog**

Presenting AI in an accessible manner: [url]

2020

### **Class representative**

Masters in Data Science

📍 Barcelona, Spain

2016

### **TEDx talk**

Held a TEDx talk about European Integration: [YouTube]

📍 Edinburgh, United Kingdom



## SCHOLARSHIPS AND AWARDS

2020

### **Novartis Datathon**

3rd Price Winner of Datathon

📍 Barcelona, Spain

2020

### **Fee Waiver and Funding for Masters**

Full funding for Masters in Data Science through BSE and Bank of England

📍 Barcelona, Spain

2017

### **Fee waiver for Masters**

Total tuition fee waiver for Master in Finance through BSE

📍 Barcelona, Spain

2017

### **School of Economics Prize**

Edinburgh University School of Economics Joint Prize for the best performance in Economics

📍 Edinburgh, United Kingdom

2015

### **School of Economics Prize**

School of Economics Prize for academic excellence in Economics

📍 Edinburgh, United Kingdom