

# FABRIZIO RUSSO

## Research Postgraduate

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## SUMMARY

Currently studying towards a PhD in Computer Science funded by the UKRI Centre for Doctoral Training in Safe and Trusted Artificial Intelligence (STAI CDT, 4 years program). My background is in Economics and Statistics and, as a consultant, I have led several modelling projects for financial institutions. Passionate about research and innovation, I am studying and developing techniques for explainable knowledge discovery, to the benefit of both academia and industry.

## EDUCATION

### PhD in Computer Science

Full-time: Oct 2020 – Present

Imperial College London

UK

- Supervisor: Prof. Francesca Toni
- Topic: Causality and Argumentation for Explainable AI
- Visiting PhD Student at King's College London

### MSc in Applied Statistics (Distinction)

Part-time: Oct 2016 – Oct 2018

University of London - Birkbeck College

UK

- Dissertation: Macroeconomic Modelling through VAR and VEC

### BSc in Economics of Financial Markets and Institutions (1:1)

Full-time: Oct 2009 – Oct 2012

University of Rome - Tor Vergata

Italy

- Dissertation: The Tobin Tax between Theoretical Wherewithal and Practical Feasibility

### Funded Exchange Program

Full-time: Oct 2011 – Jun 2012

University of Madrid - Autonoma

Spain

## EXPERIENCE

### Graduate Teaching Assistant

Part-time: Oct 2021 & 2022

Imperial College London

UK

- Teaching support for *Introduction to Machine Learning* course

### Freelance Consultant

Part-time: Mar 2022 – Sep 2022

Imperial College Consultants (ICON)

UK & USA

- Research on outlier identification and forecast for UK commercial properties index

### Doctoral Researcher

Part-time: Jan 2021 – Apr 2021

Ernst & Young (in collaboration with STAI CDT)

UK

- Research on back-door poisoning attacks identification for transformer-based language models

### Head of Data Science

Full-time: Feb 2018 – Sep 2020

4most Europe Ltd

UK

- Research Lead - Replicate Underwriter Behaviour using Machine Learning
- Research Lead - Commercial Credit Risk Scoring using Machine Learning
- Research Lead - Design, prototype and build an interactive monitoring tool (Tech of the Year - National Credit Awards '22)

## Managing Consultant

4most Europe Ltd

📅 Full-time: Jul 2016 – Jan 2018

📍 UK & Canada

- Project Lead - IFRS9 model design and build for three Credit Providers and a Challenger Bank

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## Credit Risk Consultant

4most Europe Ltd

📅 Full-time: Jul 2015 – Jun 2016

📍 UK

- IAS39 model design and build for UK Credit Provider

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## Credit Risk Analyst

General Electric Capital - UK Home Lending

📅 Full-time: May 2014 – Jun 2015

📍 UK

- Run impairment process for secured and unsecured portfolio

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# PUBLICATIONS

### 👥 Conference Proceedings

- Rago, Antonio, **Fabrizio Russo**, Emanuele Albini, Pietro Baroni, and Francesca Toni (2021). "Forging Argumentative Explanations from Causal Models". In: *Proceedings of the 5th Workshop on Advances in Argumentation in Artificial Intelligence 2021 co-located with the 20th International Conference of the Italian Association for Artificial Intelligence (AlxIA 2021)*. Volume 3086. CEUR Workshop Proceedings. CEUR-WS.org. URL: <http://ceur-ws.org/Vol-3086/paper3.pdf>.
- **Russo, Fabrizio** (2023). "Argumentation for Interactive Causal Discovery". In: *Proceedings of the 32nd International Joint Conference on Artificial Intelligence (IJCAI23)*.

### 📄 Journal Articles

- Rago, Antonio, **Fabrizio Russo**, Emanuele Albini, Pietro Baroni, and Francesca Toni (2023). "Explaining Classifiers' Output with Causal Models and Argumentation." In: *IfCoLog Journal of Logics and their Applications, Special Issue: Advances in Argumentation in AI 10.3*, pages 162–190. URL: <http://www.collegepublications.co.uk/downloads/ifcolog00059.pdf>.

### 📄 Working Papers

- **Russo, Fabrizio** and Francesca Toni (2022). *Causal Discovery and Injection for Feed-Forward Neural Networks*. arXiv: 2205.09787. URL: <https://doi.org/10.48550/arXiv.2205.09787>.

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# TALKS

## Argumentative Causal Discovery

Invited Speaker

📅 Feb 2023

📍 STAI CDT Student Seminar Series, London UK

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## From Credit Risk to Explainable AI Research

Invited Speaker

📅 Jun 2022

📍 MSc in Fintech - Politecnico di Milano & UCL, London UK

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## Causal Injection into Neural Networks

Oral Presentation

📅 Nov 2021

📍 XAI in Finance Workshop - 2021 ACM International Conference on AI in Finance - Virtual Event

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## Risk Scorecards with Machine Learning

Poster Presentation

📅 Nov 2019

📍 Joint Conference of Bank of England & King's College - London, UK

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## Credit Risk Modelling: Data and Techniques Used in the UK Banking Industry

Invited Speaker

📅 Oct 2019

📍 Danmarks Nationalbank Conference 2019 - Copenhagen, DK

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# SERVICE

- AISTATS '23 (Top-Reviewer Award)
- BSKY at AAMAS '23 (Reviewer)
- AISTATS '22 (Reviewer)
- ICML '22 (Reviewer)
- XAI-FIN at ICAIF '22 (Workshop co-organiser)
- XAI-FIN at ICAIF '21 (Reviewer)
- XAI Seminars Series @ Imperial (Co-organiser)