

JOSE M. ALVAREZ

Website: cc-jalvarez.github.io

CURRENT POSITION

Marie Skłodowska-Curie Early-Stage Researcher

Nov 2020 - Present

Department of Computer Science, University of Pisa

Pisa, IT

- Early-stage researcher (ESR) with the *NoBIAS: Artificial Intelligence without Bias* Innovative Training Network, an interdisciplinary research project funded by Horizon 2020
- Collaborated continuously with the other 13 ESRs on a range of deliverables for the European Commission, such as a set of advisory reports, a book, and a code repository

EDUCATION

Ph.D. in Data Science, *with distinction*

Nov 2020 - Jul 2024

Scuola Normale Superiore, Pisa, Italy

Thesis: “Causality for Fair Machine Learning: Selected Topics and Applications”

Advisor: Salvatore Ruggieri (University of Pisa)

Examiners: Joshua Loftus (LSE), Mykola Pechenizkiy (TU Eindhoven)

M.Sc. in Econometrics and Empirical Economics, *with distinction*

Sep 2015 - May 2017

Toulouse School of Economics, Toulouse, France

B.A. in Economics, History, *summa cum laude*

Sep 2011 - May 2015

University of Florida, Florida, USA

International Baccalaureate

Sep 2009 - May 2011

Lester B. Pearson United World College, B.C., Canada

EXPERIENCE

Visiting Research Scientist

Jul - Aug 2023

SCHUFA Holding AG

Wiesbaden, DE

- Collaborated with Dr. Klaus Broelemann, lead of Innovation & Research, on methods for measuring fairness in credit scores using counterfactual reasoning

Visiting Research Fellow

Sep - Nov 2022

Declarative Languages and Artificial Intelligence Group, KU Leuven

Leuven, BE

- Academic visit to work with Prof. Bettina Berendt

Visiting Research Scientist

Sep - Dec 2021

Generali

Milan, IT

- Collaborated with Human Resources and Advanced Analytics in formalizing the current human-driven hiring process using fair ranking models

Senior Consultant – Operational & Financial Risk Modeling

May 2017 - Oct 2020

Deloitte

Brussels, BE

- Designed, developed, and deployed statistical machine learning models for clients in the energy & utilities and financial sectors
- Built an end-to-end time series forecasting tool (Clairvoyance) at the *Deloitte aiStudio* in Frankfurt, Germany, as the chosen Belgium representative

- Conducted internal and external trainings in R, Git, Advanced Loss Given Default modeling (Basel II), and Survival Analysis modeling

Summer Economist

Cabinet Office, UK Government

Jun - Aug 2016

London, UK

- Provided insights via statistical analysis to policy makers on a range of topics, such as studying the volunteering determinants in the UK and the variation in electoral costs across local authorities

AWARDS

Best Reviewer , International Conference on Machine Learning (ICML)	2024
Borsa di Ricerca , University of Pisa	2023 - 2024
Marie Skłodowska-Curie Fellowship , European Commission	2020 - 2023
Phi Beta Kappa	2015
Honors Program , University of Florida	2011 - 2015
Davis United Word College Scholar , University of Florida	2011 - 2015
United Word College Scholarship , Lester B. Pearson College	2009 - 2011

PUBLICATIONS

(* shared first author)

1. **J. M. Álvarez**, A. Bringas-Colmenarejo, A. Elobaid, S. Fabbriizzi, M. Fahimi, A. Ferrara, S. Ghodsi, C. Mougán, I. Papageorgiou, P. Reyero, et al. Policy advice and best practices on bias and fairness in AI. *Ethics and Information Technology*, 26(2):31, 2024. [[paper](#)]
2. **J. M. Álvarez** and S. Ruggieri. Counterfactual situation testing: Uncovering discrimination under fairness given the difference. In *EAAMO*, pages 2:1–2:11. ACM, 2023. [[paper](#)] [[code](#)]
3. **J. M. Álvarez***, K. M. Scott*, B. Berendt, and S. Ruggieri. Domain adaptive decision trees: Implications for accuracy and fairness. In *FAccT*, pages 423–433. ACM, 2023. [[paper](#)] [[code](#)]
4. C. Mougán, **J. M. Álvarez**, S. Ruggieri, and S. Staab. Fairness implications of encoding protected categorical attributes. In *AIES*, pages 454–465. ACM, 2023. [[paper](#)] [[code](#)]
5. S. Ruggieri, **J. M. Álvarez**, A. Pugnana, L. State, and F. Turini. Can we trust fair-AI? In *AAAI*, pages 15421–15430. AAAI Press, 2023. [[paper](#)]
6. M. Lazzari, **J. M. Álvarez**, and S. Ruggieri. Predicting and explaining employee turnover intention. *Int. J. Data Sci. Anal.*, 14(3):279–292, 2022. [[paper](#)]

PREPRINTS

1. J. M. Álvarez, A. Mastropietro, and S. Ruggieri. The initial screening order problem. *CoRR*, abs/2307.15398, 2024. *Under preparation*. [[arXiv](#)]
2. J. M. Álvarez and S. Ruggieri. Causal perception. *CoRR*, abs/2401.13408, 2024. *Under preparation*. [[arXiv](#)]
3. J. M. Álvarez and S. Ruggieri. Uncovering algorithmic discrimination: An opportunity to revisit the comparator. *CoRR*, abs/2405.13693, 2024. *Under preparation*. [[arXiv](#)]
4. F. Palomba, A. Pugnana, J. M. Álvarez, and S. Ruggieri. A causal framework for evaluating deferring systems. *CoRR*, abs/2405.18902, 2024. *Under submission*. [[arXiv](#)]

PARTICIPATION

Invited speaker, Causality Reading Club, University of Pisa	Jul 2023
Presentation, 3rd European Workshop on Algorithmic Fairness	Jul 2024
Invited speaker, EAAMO Bridges, ALP Working Group	May 2024
Invited speaker, ASR Group, University of Oslo	Nov 2023
Poster, ACM EAAMO	Oct 2023
Doctoral colloquium, ACM EAAMO	Oct 2023
Presentation, ECML PKDD Workshop on Bias and Fairness in AI	Sep 2023
Presentation, ACM FAccT	Jun 2023
Invited speaker, KDD Lab Seminar, University of Pisa	May 2023
Poster, IMS International Conference on Statistics and Data Science	Dec 2022
Poster, NeurIPS Workshop on Algorithmic Fairness through the Lens of Causality	Dec 2022
Invited speaker, 1st Comète Workshop on Ethical AI, Inria Polytechnique	Sep 2022
Doctoral colloquium, ACM FAccT	Jun 2022
Presentation, 1st European Workshop on Algorithmic Fairness	Jun 2022
Invited speaker, NoBIAS Monthly Colloquium	Oct 2021

LEADERSHIP AND COMMUNITY SERVICE

Reviewer

2024	FAccT, NeurIPS, EWAF, ICML, ECML PKDD, AIES
2023	FAccT, NeurIPS, EWAF, ICLR, AFT Workshop
2022	AFCP Workshop

European Workshop on Algorithmic Fairness (EWAF) 2022 -

- Area chair for Computer Science, and social media co-chair for [EWAF'24](#) (3rd edition)
- Co-organizer, social media chair, and sponsorship co-chair for [EWAF'23](#) (2nd edition)

European Association for Algorithmic Fairness (EAAF) [[website](#)] 2023 -

- Co-founder of EAAF, which organizes EWAF, and member of the inaugural board

REFERENCES

Prof. Salvatore Ruggieri
University of Pisa
salvatore.ruggieri@unipi.it

Prof. Bettina Berendt
TU Berlin
berendt@tu-berlin.de

SKILLS

Software	Python, R, \LaTeX , Git
Languages	Spanish (Native), English (Bilingual), Italian (Fluent), French (Intermediate)

PERSONAL

Interests	Football (Amatori AICS B1), Drums, Reading
Nationalities	Venezuelan, Italian