

# JOSE M. ALVAREZ

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## CURRENT POSITION

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### Postdoctoral Researcher

Nov 2024 - Present

*Department of Computer Science, KU Leuven*

*Leuven, BE*

- Joint project between the Declarative Languages and Artificial Intelligence ([DTAI](#)) and Research Centre for Information Systems Engineering ([LIRIS](#)) with Prof. [Jesse Davis](#) and Prof. [Wouter Verbeke](#)
- In collaboration with a financial partner to develop temporal representations of user-item interactions for data-driven recommendations

## EDUCATION

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

Nov 2020 - Jul 2024

*Scuola Normale Superiore, Pisa, Italy*

Advisor: Salvatore Ruggieri

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

Examiners: Joshua Loftus, Mykola Pechenizkiy

### 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

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### Marie Skłodowska-Curie Early-Stage Researcher

Nov 2020 - Oct 2024

*Department of Computer Science, University of Pisa*

*Pisa, IT*

- Early-stage researcher with the [NoBIAS: AI without Bias ITN](#), an interdisciplinary research project funded by EU Horizon 2020
- Included two industry research visits to SCHUFA (Summer 2023) and Generali IT (Fall 2021), and one academic research visit to KU Leuven under Prof. Bettina Berendt (Fall 2022)

### Senior Consultant – Operational & Financial Risk Modeling

May 2017 - Oct 2020

*Risk Advisory, Deloitte*

*Brussels, BE*

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

### Summer Economist

Jun - Aug 2016

*Cabinet Office, UK Government*

*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

**Research Assistant**

Toulouse School of Economics

May - Jun 2016

Toulouse, FR

- Participated in the initial stages of Prof. Josepa Miquel-Florensa's project on electoral participation and corruption in Paraguay by cleaning and preparing the collected survey data

**Summer Strategic & Commercial Analyst**

Frontera Energy

Jun - Aug 2013

Bogota, CO

- Elaborated daily oil and gas price reports, providing economic insight into the effects of current events on price fluctuations in the market world markets for briefings and weekly presentations

**AWARDS**


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

**PUBLICATIONS**

(\* shared first author)

- J. M. Álvarez** and S. Ruggieri. Counterfactual Situation Testing: From Single to Multidimensional Discrimination. *Forthcoming in the Journal of Artificial Intelligence Research*. [\[arXiv\]](#)
- F. Palomba\*, A. Pugnana\*, **J. M. Álvarez**, and S. Ruggieri. A causal framework for evaluating deferring systems. *CoRR*, abs/2405.18902, 2024. *Forthcoming in AISTAT 2025*. [\[arXiv\]](#)
- J. M. Álvarez**, A. Mastropietro, and S. Ruggieri. The initial screening order problem. *CoRR*, abs/2307.15398, 2024. *Forthcoming in WSDM 2025*. [\[arXiv\]](#) [\[code\]](#)
- 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. [\[paper\]](#)
- 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. [\[paper\]](#) [\[code\]](#)
- 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. [\[paper\]](#) [\[code\]](#)
- C. Mougán, **J. M. Álvarez**, S. Ruggieri, and S. Staab. Fairness implications of encoding protected categorical attributes. In *AIES*, pages 454–465. ACM, 2023. [\[paper\]](#) [\[code\]](#)
- 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. [\[paper\]](#)
- 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

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1. J. M. Álvarez and S. Ruggieri. Causal perception. *CoRR*, abs/2401.13408, 2024. *Under submission*. [[arXiv](#)]
2. J. M. Álvarez and S. Ruggieri. Mutatis Mutandis: Revisiting the comparator in discrimination testing. *CoRR*, abs/2405.13693, 2024. *Under submission*. [[arXiv](#)]
3. L. Bothmann, P. A. Boustani, J. M. Alvarez, G. Casalicchio, B. Bischl, S. Dandl. Privilege Scores. *Under submission*. [[arXiv](#)]

## PARTICIPATION

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Invited speaker, Causality Reading Club, University of Pisa	Jul 2024
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 Workshop on Bias and Fairness in AI	Sep 2023
Presentation, ACM FAccT	Jun 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

## COMMUNITY SERVICE

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<b>2025</b>	AISTAT, ICML (Reviewer) <a href="#">4th European Workshop on Algorithmic Fairness</a> (Area Chair)
<b>2024</b>	ACM FAccT, NeurIPS, ICLR, ICML, ECML, ACM AIES (Reviewer) <a href="#">3rd European Workshop on Algorithmic Fairness</a> (Area Chair, Social Media Chair)
<b>2023</b>	ACM FAccT, NeurIPS, NeurIPS AFT Workshop (Reviewer) <a href="#">2nd European Workshop on Algorithmic Fairness</a> (Co-Organizer, Social Media Chair) <a href="#">European Association for Algorithmic Fairness</a> (Co-Founder, Inaugural Board)
<b>2022</b>	TheWebConf, NeurIPS AFCEP Workshop (Reviewer) <a href="#">2nd ACM EAAMO</a> (Social Media Chair)

## SKILLS

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<b>Software</b>	Python, R, $\LaTeX$ , Git
<b>Languages</b>	Spanish (Native), English (Bilingual), Italian (Fluent), French (Intermediate)

## PERSONAL

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<b>Interests</b>	Football, Drums, Reading, Running
<b>Nationalities</b>	Venezuelan, Italian