ROEL HULSMAN

[Email](#) | [Website](#) | [LinkedIn](#) | [Scholar](#) | [GitHub](#)

I am a PhD candidate in causal machine learning at AMLab, supervised by Sara Magliacane and Herke van Hoof, after graduating with distinction in statistics from the University of Oxford. Overall, I enjoy understanding complex problems and I take pride in aiming for detailed high-quality work. Friends and colleagues describe me as a calm and friendly person that is excited to cultivate new skills and experiences. My ideal position is in a dynamic, international research environment with diverse collaborative projects at the frontiers of science.

EDUCATION

PhD Candidate – Causal Machine Learning   Sept 2024 – Present
AMLab, University of Amsterdam, supervised by Sara Magliacane and Herke van Hoof   *Amsterdam, NL*
- Topic: Causal methods for (non-stationary) time series.
- Funded by Adyen, a global financial technology company, where I spend a minor portion of my time (20%).
- Teaching assistant (Causality, 2025, 2026) and supervisor (Project in AI, 2025) for the MSc Artificial Intelligence.
- Reviewer for a conference (ICML, 2026) and a journal (IJAR, 2025).

MSc Statistical Science   Oct 2021 – Sept 2022
Distinction, University of Oxford   *Oxford, UK*
- Thesis project on the mathematical guarantees of split conformal prediction, supervised by Rob Cornish and Arnaud Doucet, resulting in an ArXiv preprint.
- International student representative within the MCR community at St. Anne's College.

BA Philosophy of a Specific Discipline   Sept 2017 – Jul 2020
Cum Laude, University of Groningen   *Groningen, NL*
- Thesis project on reductionist theories of causation, supervised by Alexander Gebharter.

BSc Econometrics and Operations Research   Sept 2016 – Dec 2020
Cum Laude, University of Groningen   *Groningen, NL*
- Thesis project designing a forecast model for inventory control for Belsimpel (Gomibo), supervised by Onur Kilic.
- Teaching assistant for various courses in mathematics, probability and econometrics (2017–2019), with a TA Certificate awarded by the faculty, acknowledging classroom and teaching skills (Feb, 2019).
- Exchange at the Uni. of South Carolina, US (Fall, 2018), and a 10-day business trip to Taipei, TW (Apr, 2019).
- Member of the VESTING Data Analytics Team (Spring, 2018), working on a consultancy project for Pockies.

Propaedeutic Certificate in International Economics and Business   Sept 2015 – Aug 2016
Radboud University   *Nijmegen, NL*

EXPERIENCE

Expert Advisor (end), Scientific Trainee (start)   Oct 2023 – Aug 2024
European Commission (EC), Joint Research Centre (JRC), Digital Health Unit   *Ispra, IT*
- During the final five months, remote, I advised on uncertainty quantification for deep learning models applied to healthcare datasets, resulting in a conference paper at COPA'25, an invited talk (JRC, Oct, 2024), and a minor contribution to a technical report on AI for medical imaging (2025).
- During the first six months, as a scientific trainee, I studied explainability of LLMs and knowledge graph extraction using LLMs, resulting in a workshop paper at TEXT2KG'24 and a journal paper at SWJ (2025).

Data Analyst in Business Intelligence   Jan 2023 – Jul 2023
ASML, Department of Business Intelligence and Analytics   *Eindhoven, NL*
- I optimised business processes related to the manufacturing of lithography systems through ML and data science projects, from initial contact with internal stakeholders until industrialisation of a prototype model or dashboard.

Process Manager   Jul 2020 – Jun 2021
AIESEC Groningen, Health Project   *Groningen, NL*
- Focus on leadership development, soft skills and teamwork through volunteering abroad. My responsibilities involved the end-to-end experience of volunteers, and setting up new initiatives in Europe, South America, and Africa.

Thesis Intern (end), Data Driven Online Marketeer (start)   Aug 2019 — Feb 2021
Belsimpel (Gomibo), Team Data Driven   *Groningen, NL*
- Small-scale improvements to the internal model for keyword bids on Google Ads. During the final six months, I developed a forecast model for inventory control for my bachelor's thesis.

PUBLICATIONS

Submitted: **Hulsman, R.**, Balsells-Rodas, C. and Magliacane, S. Identifiable Markov Switching Models with Instantaneous Effects and Exponential Families. Under submission, 2026.

Journal: Bertolini, L.*, **Hulsman, R.***, Consoli, S., Puertas Gallardo, A. and Ceresa, M. On general and biomedical text-to-graph large language models. *Semantic Web Journal*, 17(1):1–27, 2025.

Conference: **Hulsman, R.**, Comte, V., Bertolini, L., Wiesenthal, T., Puertas Gallardo, A. and Ceresa, M. Conformal risk control for pulmonary nodule detection. In *Proceedings of the 14th Symposium on Conformal and Probabilistic Prediction with Applications*, volume 266, pp. 445–463. PMLR, 2025.

Technical Report: Comte, V., Bertolini, L., **Hulsman, R.**, Consoli, S., Leoni, G. et al. AI-driven innovation in medical imaging. Technical Report, Publications Office of the European Union, 2025.

Workshop: Bertolini, L., **Hulsman, R.**, Consoli, S., Puertas Gallardo, A. and Ceresa, M. (2024). On constructing biomedical text-to-graph systems with large language models. In *Joint Proceedings of the 3rd International Workshop on Knowledge Graph Generation from Text (TEXT2KG) and Data Quality meets Machine Learning and Knowledge Graphs (DQMLKG), co-located with the Extended Semantic Web Conference (ESWC)*, volume 3747, 2024.

Master's Thesis: **Hulsman, R.** Distribution-free finite-sample guarantees and split conformal prediction. Master's thesis, University of Oxford, Oxford, United Kingdom, 2022. Available at https://arxiv.org/abs/2210.14735.

LANGUAGES

Dutch/English: Fluent