

Oriane PETER

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Interdisciplinary PhD Researcher and former Senior ML Engineer specialising in the evaluation of ML model societal impacts. Investigating the generative monoculture and homogenising effects of LLMs using mixed-methods approaches, combining computational social science, NLP pipelines, and human-centric experimental design.

Education

King's College London, UK

2025 – 2028 (expected)

PhD in Responsible ML

Thesis Topic: Measuring the Influence of LLM Homogenisation on Political Discourse, Supervised by Prof. Kate Devlin and Prof. Elena Simperl

- Developed quantitative evaluation frameworks to measure LLM-induced viewpoint convergence, utilising Bayesian Binomial Generalised Linear Mixed Models to analyse topic-distribution shifts.
- Designed and facilitated workshops ($N = 59$, 19 countries) to elaborate a mixed-method evaluation of cross-cultural alignment in generative models.

University of Cambridge, UK

2022 – 2024

MSt in AI Ethics and Society (*First-class honours*)

Thesis: Large Language Models Value-Alignment and Hegemony, Supervised by Dr. Dorian Peters

ETH Lausanne (EPFL), CH

MSc in Data Science (*First-class honours*)

2018 – 2021

Thesis: Self-supervised learning of patient EHR representations using bidirectional transformers, Supervised by Prof. Martin Jaggi

BSc in Life Sciences

2015 – 2018

Publications & Presentations

Publications

- Peter, O., Simperl E. & Devlin K. (2026). *Narrowing the Horizon: Quantifying Topic Saliency Shifts in Generative Monoculture*. Under review at EMNLP 2026.
- Peter, O., & Devlin K. (2025). *Decentralising LLM Alignment: A Case for Context, Pluralism, and Participation*. AAAI/ACM Conference on AI, Ethics, and Society.
- Kiden S., Peter O., Reyes-Cruz G., et al (2025). *Back to the Communities: A Mixed-Methods and Community-Driven Evaluation of Cultural Sensitivity in Text-to-Image Models*. Under review at Springer AI and Society (Preprinted/Presented as a poster at UK AI Research Symposium 2025).
- Rupp, M., Peter, O. & Pattipaka, T. (2023). *ExBEHRT: Extended Transformer for Electronic Health Records*. Oral Presentation at the ICLR 2023 Workshop on Trustworthy Machine Learning for Healthcare.

Other

- Peter, O. (2026) *The Politics of Homogeneity: LLMs and Hegemonic Future-Making* Accepted at EASST 2026
- Peter, O. (2025). *Will Swiss AI Save Swiss Democracy? An Investigation of Apertus' Perception of Democracy*. Symposium on AI & Democracy blogposts.
- Peter, O. (2025). *How LLM Alignment Can Help Counteract Big Tech's Centralization of Power*. Article for Tech Policy Press.
- Peter, O. (2023). *Applying Ethics of Care in a Machine Learning Development Process*. Presentation at the Bonn Sustainable AI Conference, Young Researcher Workshop.

Professional Experience

Zühlke Group, Zürich, Switzerland

2022 – 2025

Senior Machine Learning Engineer – Responsible AI

- Engineered end-to-end Computer Vision and NLP pipelines in Python, scaling PoCs from algorithmic ideation to high-compute production environments.
- Responsible AI Frameworks: contributed to the operationalisation of responsible and compliant ML practices, building partnerships with EU AI ACT certification partners.
- Led a GenAI-driven initiative for a manufacturing company, leading a PoC to assist in quality assurance processes.

Starmind, Zürich, Switzerland

2021 – 2022

Natural Language Processing Engineer

- Designed and deployed NLP models for a multilingual knowledge management platform, supporting 5+ languages
- Researched and integrated state-of-the-art techniques in multilingual embeddings

Industry Internships

Novartis Oncology, Basel, Switzerland

2020 – 2021

Data Science Intern

- Conducted a structured assessment of data-generating platforms in digital health to identify sources for Real-World Evidence (RWE) as part of the RWE Partnership & Innovation team.

Knowhere News, San Francisco, USA

2019

Machine Learning Intern

- Developed deep learning models for text classification to quantify and detect political bias and ideological manipulation in media streams.

Skills, Languages & Interests

Methodologies	Computational Social Science, Model Evaluation, Natural Language Processing (NLP), Computer Vision, Advanced Statistical Modelling (Hierarchical/Mixed-Effects Models).
Technical	Python (PyTorch, Transformers, scikit-learn), MLOps (Azure, Docker), Front-End (Streamlit), Other Languages (Scala, SQL, Spark, C++)
Languages	French (Native), English (C1 - Professional Fluency), German (B2)
Interests	Creative Writing, Contemporary Fiction, Philosophy, Travelling