

Pietro Bernardelle

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Educational qualifications and academic awards

The University of Queensland

Brisbane, AU

DOCTORATE OF PHILOSOPHY

Jul. 2024 - Current

- My research lies at the intersection of large language models (LLMs) and social science. I focus on identifying and characterising ideological biases in current LLMs, investigating how these biases are represented and emerge within the models, developing methods to mitigate them, and examining their effects on end users

The University of Queensland

Brisbane, AU

MASTER OF ENGINEERING SCIENCE (MANAGEMENT) - SOFTWARE ENGINEERING MAJOR

Feb. 2023 - Jul. 2024

- I was **awarded a scholarship** that enabled me to participate in a **double degree program** between UQ and PoliMi
- Awarded **Dean's Commendation for Academic Excellence** in Semester 1, 2024
- GPA: 6.66/7

Polytechnic University of Milan

Milan, IT

M.SC. IN COMPUTER SCIENCE & ENGINEERING - AI SPECIALIZATION

Sep. 2021 - Dec. 2024

- GPA: 28.05/30
- Final grade: 110/110

Polytechnic University of Milan

Milan, IT

B.SC. IN ENGINEERING OF COMPUTING SYSTEMS

Sep. 2018 - Jul. 2021

- GPA: 26.31/30
- Grade: 102/110

Employment history

UQ - School of Electrical Engineering and Computer Science

Brisbane, AU

ACADEMIC TUTOR

Feb. 2025 - Nov. 2025

- Facilitated practical sessions, conducted oral examinations, and evaluated student projects across postgraduate and advanced undergraduate courses, including Data Mining (INFS4203), Information Retrieval and Web Search (INFS7410), and Data Analysis at Scale (DATA7201).

UQ - School of Electrical Engineering and Computer Science

Brisbane, AU

CASUAL RESEARCH ASSISTANT

Nov. 2023 - Jan. 2024

- **Project:** Graph-Based Reinforcement Learning for Pair Selection
- **Supervisor:** Professor Gianluca Demartini
- My focus was toward **experimental work**, particularly in training a decision transformer model for pair selection

Other research experience

UQ - School of Electrical Engineering and Computer Science

Brisbane, AU

SUMMER RESEARCH STUDENT

Jan. 2024 - Feb. 2024

- **Project:** Graph-Based Reinforcement Learning for Pair Selection
- **Supervisor:** Professor Gianluca Demartini
- My efforts were concentrated on the **evaluation phase** of the project, assessing the model's performance

CIRES - The Australian Research Council Centre for Information Resilience

Brisbane, AU

RESEARCH INTERN

Aug. 2023 - Nov. 2023

- **Project:** Graph-Based Reinforcement Learning for Pair Selection
- **Supervisor:** Professor Gianluca Demartini
- My primary contribution significantly enhanced data generation efficiency, achieving a **400% improvement in time**

Research outputs

- [Pietro Bernardelle](#), Stefano Civelli, Leon Fröhling, Riccardo Lunardi, Kevin Roitero and Gianluca Demartini. **Political Ideology Shifts in Large Language Models**. In: Information Processing & Management (IPM), Elsevier. 2027. [\[PDF\]](#)
- Andrea Paganelli, Stefano Civelli, [Pietro Bernardelle](#), and Gianluca Demartini. **Cross-lingual Calibration of Pre-Generation Success Probes for Multilingual LLM Routing**. arXiv preprint. [\[PDF\]](#)
- [Pietro Bernardelle](#), Samaneh Mohtadi, Stefano Civelli, Joel Mackenzie, and Gianluca Demartini. **LLMs Encode Relevance as a Layer-Wise Cross-Lingual Signal**. In: The 35th International ACM Conference on Knowledge and Information Management (CIKM). 2026. [\[PDF\]](#)
- Samaneh Mohtadi, [Pietro Bernardelle](#), Joel Mackenzie, and Gianluca Demartini. **Persona Conditioning as an Assessor-Sensitivity Probe for LLM-Based IR Evaluation**. In: The 35th International ACM Conference on Knowledge and Information Management (CIKM). 2026. [\[PDF\]](#)
- [Pietro Bernardelle](#), Stefano Civelli, Kevin Roitero, and Gianluca Demartini. **Context Shapes LLMs Retrieval-Augmented Fact-Checking Effectiveness**. In: 1st Workshop on Generative AI for Social Good and Vulnerable Populations (GenAI4SG) at the 35th International ACM Conference on Knowledge and Information Management (CIKM). 2026. [\[PDF\]](#)
- Stefano Civelli, [Pietro Bernardelle](#), Nicolò Brunello, and Gianluca Demartini. **A Shared Geometry of Difficulty in Multilingual Language Models**. In: The 64th Annual Meeting of the Association for Computational Linguistics (ACL 2026) - Short paper. San Diego, California, 2 - 7 July 2026. [\[PDF\]](#)
- Stefano Civelli, [Pietro Bernardelle](#), Nardiana A. Pratama, and Gianluca Demartini. **Ideology-Based LLMs for Content Moderation**. In: ACM Transactions on Intelligent Systems and Technology (TIST). 2026. [\[PDF\]](#)
- [Pietro Bernardelle](#), Leon Fröhling, Stefano Civelli and Gianluca Demartini. **SubData: Bridging Heterogeneous Datasets to Enable Theory-Driven Evaluation of Political and Demographic Perspectives in LLMs**. In: 5th Workshop on Perspectivist Approaches to NLP (NLPerspectives 2026) at the 15th Language Resources and Evaluation Conference (LREC). Mallorca, Spain, 11 - 16 May 2026. [\[PDF\]](#)
- Stefano Civelli, [Pietro Bernardelle](#), Frank Mols, and Gianluca Demartini. **Political Advertising on Facebook During the 2022 Australian Federal Election: A Social Identity Perspective**. In: Proceedings of the 20th International AAAI Conference on Web and Social Media (ICWSM 2026). Los Angeles, California, USA, 27 - 29 May 2026. [\[PDF\]](#)
- Elyas Meguellati, Stefano Civelli, [Pietro Bernardelle](#), Shazia Sadiq, Irwin King and Gianluca Demartini. **Towards Detecting Persuasion on Social Media: From Model Development to Insights on Persuasion Strategies**. In: Proceedings of the 20th International AAAI Conference on Web and Social Media (ICWSM 2026). Los Angeles, California, USA, 27 - 29 May 2026. [\[PDF\]](#)
- [Pietro Bernardelle](#), Leon Fröhling, Stefano Civelli, Riccardo Lunardi, Kevin Roitero and Gianluca Demartini. **Mapping and Influencing the Political Ideology of Large Language Models using Synthetic Personas**. In: Companion Proceedings of the ACM Web Conference 2025 (WWW 2025). Sydney, Australia, 28 April - 2 May 2025. [\[PDF\]](#)
- Stefano Civelli, [Pietro Bernardelle](#) and Gianluca Demartini. **The Impact of Persona-based Political Perspectives on Hateful Content Detection**. In: Companion Proceedings of the ACM Web Conference 2025 (WWW 2025). Sydney, Australia, 28 April - 2 May 2025. [\[PDF\]](#)
- [Pietro Bernardelle](#) and Gianluca Demartini. **Optimizing LLMs with Direct Preferences: A Data Efficiency Perspective**. In: The 2nd International ACM SIGIR Conference on Information Retrieval in the Asia Pacific (SIGIR-AP 2024). Tokyo, Japan, 9 - 12 December 2024. [\[PDF\]](#)

Academic referees

Professor Gianluca Demartini

Brisbane, AU

PROFESSOR - THE UNIVERSITY OF QUEENSLAND

✉ g.demartini@uq.edu.au

Assistant Professor Kevin Roitero

Udine, IT

TENURE TRACK ASSISTANT PROFESSOR - UNIVERSITY OF UDINE

✉ kevin.roitero@uniud.it

Dr Joel Mackenzie

Brisbane, AU

LECTURER - THE UNIVERSITY OF QUEENSLAND

✉ joel.mackenzie@uq.edu.au