Sara Vera Marjanović

PhD Student in Information Retrieval & NLP

Github | **Google Scholar** | **LinkedIn** | **Website**

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Third-year PhD student working to ensure fair and transparent language models, with research interests in interpretability, bias detection, and uncertainty.

Education

2023 – now **PhD fellow in Computer Science,** University of Copenhagen, Denmark
» Joint supervision by Christina Lioma and Maria Maistro in Information Retrieval and Isabelle Augenstein in Natural Language Processing. Anticipated graduation in 04 / 2026.

2019 – 2021 **MSc in IT & Cognition,** University of Copenhagen, Denmark
» Identified gender biases on bipartisan political discussions on Reddit combining techniques from Natural Language Processing and Network Science.
» Coursework in Large-Scale Data Science, Machine Learning, Natural Language Processing, Image Processing, and Robotics. cGPA: 11.8/12.0

2012 – 2016 **BSc in Neuroscience,** McGill University, Canada
» Courses in computational neuroscience, evolutionary biology, and computer science. cGPA: 3.91/4.00, Graduated with Distinction. Dean's Honour List: 2013, 2015

Work experience

2025 **Graduate Research Trainee,** Mila – Quebec Artificial Intelligence Institute, Canada
» Supervision by Dr. Siva Reddy and Dr. Karolina Stańczak in the McGill NLP Group

2022 – 2023 **Consultant,** Capgemini Insights & Data, Denmark
» Implemented forecasting ML pipelines to production for clients in the public sector using cloud-computing services (Azure, AWS)
» Led business development projects to improve team competencies within MLOps, multimodal synthetic data, and quantum machine learning.

2020 – 2022 **Data Scientist,** FocusWRX, Denmark
» Forecasted user stress using Garmin watch (HRV) and Outlook data to determine significant stressors in work environments and present in-app insights to users.
» Conducted user analytics research and interviews to guide feature development.

2020 – 2022 **Research Assistant,** Copenhagen Center for Social Data Science, Denmark
» Modelled network transmission and narrative patterns of misinformation on Twitter (now X) as part of a multi-university, multi-disciplinary collaboration investigating the social impact of the coronavirus pandemic (as part of the HOPE project).

Publications

2025 ***Marjanović,*** *Patel, Adlakha, Aghajohari, BehnamGhader, Bhatia, Khandelwal, Kraft, Krojer, Lù, Meade, Shin, Kazemnejad, Kamath, Mosbach, Stańczak & Reddy. DeepSeek-R1 Thoughtology: Let's think about LLM reasoning. Under review.* https://mcgill-nlp.github.io/thoughtology

2025 Hagström, **Marjanović**, Yu, Arora, Lioma, Maistro, Atanasova & Augenstein. A Reality Check on Context Utilisation for Retrieval-Augmented Generation. *Accepted to ACL 2025 Main*. https://arxiv.org/abs/2412.17031

2024 **Marjanović**, Yu, Atanasova, Maistro, Lioma & Augenstein. DYNAMICQA: Tracing Internal Knowledge Conflicts in Language Models. *In EMNLP 2024 Findings*. https://aclanthology.org/2024.findings-emnlp.838/

2024 **Marjanović**, Augenstein & Lioma. Investigating the Impact of Model Instability on Explanations and Uncertainty. *In ACL 2024 Findings*. aclanthology.org/2024.findings-acl.705/

2022 **Marjanović**, Stańczak, & Augenstein (2022). Quantifying Gender Biases Towards Politicians on Reddit. *PlosONE.* journals.plos.org/plosone/article?id=10.1371/journal.pone.0274317

2022 Kjær, **Marjanović**, Johansen, Baglini & Adler-Nissen (2022). Misinformation, social status og latterliggørelse: En undersøgelse af danskeres spredning af og reaktioner på Covid-19 misinformation på Twitter. *Politica.*

2022 Johansen, **Marjanović**, Kjær, Baglini & Adler-Nissen (2022). Ridiculing the "tinfoil hats:" Citizen responses to COVID -19 misinformation in the Danish facemask debate on Twitter. *Harvard Misinformation Review. misinforeview.hks.harvard.edu/article/ridiculing-the-tinfoil-hats-citizen-responses-to-covid-19-misinformation-in-the-danish-facemask-debate-on-twitter/*

Teaching Experience

2023 **Teaching Assistant,** University of Copenhagen, Fair & Transparent Machine Learning
» Designed practical sessions in model (LLM, VLM) probing, fairness metrics and XAI
» Provided feedback and guidance to student presentations and projects

2020 **Teaching Assistant,** University of Copenhagen, Introduction to Social Data Science
» Led hybrid practical lessons introducing python programming, pandas and scraping to first-year Masters students.
» Taught biweekly quantitative analysis workshops.

Awards

2021 **Columbus Prisen** (as part of the HOPE project), *Forlaget Columbus*
50000 DKK award for public institutions that uphold ideas of democracy, genuine political commitment and the importance of factual arguments.

2015 **Quinn Research Assistantship Award,** *University of British Columbia*
6000 CAD research grant for undergraduate research within psychology, for a summer internship at the University of British Columbia.

Skills

Coding Languages: Python, R, LaTeX

Languages: English (C2), Serbo-Croatian (C1), Danish (C1), French (B1)

Tools: Pytorch, Tensorflow, Huggingface, Cloud-computing services (Microsoft Azure, AWS), Git, Pyspark, NLTK, scikit-learn, Pandas, Data visualization (Matplotlib), spaCy, wandb

Hobbies: Word puzzles, rock-climbing, endurance sports (e.g. long-distance running, cycle-touring), reading, needle crafts (e.g. crocheting)