

# Dorian Christoph Quelle

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## Work Experience

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- Pattn.AI - Data Scientist & Disinformation Analyst** 04/2022 – present
- ▷ Real-time monitoring of and reporting on multimodal and multiplatform propaganda of foreign state media with generative AI
  - ▷ In-depth reporting and uncovering of coordinated inauthentic behavior by state actors
  - ▷ Setting up automated workflows for analysts using machine learning
  - ▷ Communicating complex technical insights to diverse audiences, including senior policymakers
- Programme on Democracy & Technology - Researcher** 10/2021 – 04/2022
- ▷ Reporting on foreign-state disinformation for senior policymakers
  - ▷ Analyzing large datasets to provide actionable insights on social media trends
- D-fine - Intern Financial Modelling and Insurances** 06/2021 – 08/2021
- PriceWaterhouseCoopers - Intern Forensic Services** 06/2018 – 09/2018
- Rwandan Ministry of the Economy (RDB) - Intern** 08/2017 – 09/2017
- ▷ Analysing export opportunities in Europe for Rwandan coffee and tea farmers

## Education

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- University of Zurich - PhD Candidate** 10/2022 – present
- ▷ Quantitative Network Science Group *DM3L* - Supervised by Prof. Alexandre Bovet
  - ▷ Focusing on computational social science and network analysis. Currently working on the complete social network graph of Bluesky and using Meta Content Library to study multilingual misinformation, polarisation, algorithmic curation, and debate structures
- University of Oxford - Research Associate** 10/2022 – present
- ▷ Project Professor: Scott Hale
- University of Oxford - MSc Social Data Science, Oxford Internet Institute** 10/2021 – 10/2022
- ▷ Grade: Distinction
- Zeppelin University - Bachelor in Corporate Management & Economics** 01/2017 – 01/2021
- ▷ GPA 3.9/4.0, German Grade: 1.1, Ranked Top 2%
- University of California Berkeley** 08/2019 – 12/2019
- ▷ GPA 4.0/4.0, German Grade: 1.0, Ranked Top 1%
- London School of Economics - Summer School** 06/2019 – 07/2019
- ▷ Machine Learning in Practice
- University of Constance - Department of Physics** 10/2015 – 07/2016

## Teaching Experience

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- Various Institutions - Teaching Assistant**
- Scientific Computing in Python, Economics (undergraduate & graduate level), Applied Statistics (with Software), Econometrics, Mathematics (undergraduate & graduate level)
- Zeppelin University - Research Assistant** 09/2018 – 12/2018
- ▷ Chair of Empirical Finance and Econometrics, Chair of Marketing

## Skills & Languages

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**Technical Skills:** Python, R, SQL, Machine Learning, Social Network Analysis, Large Language Models, Statistical Inference, Data Visualization, Web Development

**Languages:** German (Native), English (Fluent, TOEFL: 120/120, GRE Verbal: 169/170), French (B2), Spanish (B2)

## Published Work

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- Quelle, D., Bovet, A. (2024). The perils and promises of fact-checking with large language models. *Frontiers in Artificial Intelligence*, 7, 1341697. <https://www.frontiersin.org/journals/artificial-intelligence/articles/10.3389/frai.2024.1341697/full>  
Automated fact-checking, using machine learning to verify claims, has grown vital as misinformation spreads beyond human fact-checking capacity. We evaluate the use of LLM agents in fact-checking by having them phrase queries, retrieve contextual data, and make decisions.
- Quelle, D., Cheng, C., Bovet, A., Hale, S.A. (2023). Lost in translation—multilingual misinformation and its evolution. *arXiv preprint arXiv:2310.18089 (Under Review at EPJ Data Science)*. <https://arxiv.org/abs/2310.18089>  
We investigate multilingual misinformation through an analysis of over 250,000 unique fact-checks in 95 languages. We find that 11.7% of claims (21,000+) are fact-checked multiple times. Using fact-checks as a proxy for misinformation spread, we observe 33% of repeated claims crossing linguistic boundaries, suggesting significant permeation of misinformation across language barriers.
- Bradshaw, S., Elswah, M., Haque, M., Quelle, D. (2024). Strategic storytelling: Russian state-backed media coverage of the Ukraine War. *International Journal of Public Opinion Research*, 36(3). <https://academic.oup.com/ijpor/article-abstract/36/3/edae028/7709024>  
Strategic narratives help shape wars. During the 2022 Russian invasion of Ukraine, Russia was accused of weaponizing its state-backed media outlets to promote a pro-Russian version of the war. We analyze Russian state-backed media coverage of the Ukraine war across 12 languages.
- Quelle, D., Bovet, A. (2024). Bluesky: Network Topology, Polarisation, and Algorithmic Curation. *arXiv preprint arXiv:2405.17571 (Submitted at PlosOne)*. <https://arxiv.org/abs/2405.17571>  
Bluesky is a nascent “Twitter-like” and decentralized social media network with novel features and unprecedented data access. This paper provides a characterization of the network, studying the political leaning, polarization, network structure, and algorithmic curation mechanisms of five million users.

## Work in Progress

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### Self Censorship & Majority Illusion - D. Quelle, E. Landgren, A. Bovet

We automatically detect contentious debates and assign latent ideology scores to participants based on a data-set over a billion user-interactions. We test whether the perception of being in the minority affects self-censorship.

### Multway Alignment and Multilevel Social Networks - D. Quelle, A. Saloum, L. Mangold, A. Bovet

We uncover patterns of multway alignment of political attitudes and describe idiosyncrasies in interaction patterns across different layers of the social network.

### Birds of a feather Block each Other - D. Quelle, A. Bovet

We investigate social media blocking behavior and its effects on exposure to hate speech and homophily. Using signed networks and inferred exposure graphs, we show users tend to block the most dissimilar individuals among those similar to them

## Miscellaneous Projects

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 **parleR**: An R-Interface to Parler.com <https://github.com/schliebs/parleR>

 **Chess Analysis**: Blog posts: [How To Catch Smart Cheaters](#), [Cheating In Titled Tuesday](#) (#1 on Hackernews)

## Contributions to International Conferences

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**NetSci24** 📍 Quebec, Canada: Birds of a Feather Block Each Other: Understanding Selective Avoidance (Oral)  
Dorian Quelle, Alexandre Bovet

**DTL Conference on Information Operations** 📍 Taiwan: Convergence of RU & CN Propaganda (Invited Speaker)  
Dorian Quelle

**IC2S2 2024** 📍 Philadelphia, USA: Exploring the Content Mutation of Multilingual Misinformation (Poster)  
Calvin Yixiang Cheng, Scott A. Hale, Dorian Quelle

**IC2S2 2023** 📍 Copenhagen, Denmark: Spreading the Misinformation Agenda: Communication on Vaccination (Poster)  
Aliaksandr Herasimenka, Benedikt Ströbl, Dorian Quelle, Samantha Vanderslott, Jonathan Bright, Philip Howard