

Tim Draws

drawstim@gmail.com | +49 151 2905 4047 | timdraws.net |   

Senior researcher and data scientist with a background spanning psychology and machine learning. PhD in Computer Science from TU Delft (cum laude). Researches and builds human-centric ML systems; focus on measurement, evaluation, human data, and human-AI collaboration.

EXPERIENCE

OTTO, Hamburg, DE

Senior Data Scientist (prev. Data Scientist), Sep 2023 – present

- Built and deployed forecasting models — gradient boosting (LightGBM, CatBoost) and deep / foundation models (TiDE, Chronos) — generating daily forecasts up to 450 days ahead for 3M+ SKUs, feeding automated and semi-automated stock replenishment.
- Drove sustained RMSSE improvements over the statistical baseline across multiple forecast horizons (e.g., 14- and 450-day; >10% gains to date).
- Built the team's forecasting evaluation framework, including novel metrics capturing temporal misalignment ignored by standard ones (paper in preparation); now used to benchmark models across use cases.
- Led applied research with TU Delft on human oversight of automated AI decisions in production forecasting — testing how intervention range and signal depth affect oversight effectiveness (paper in preparation).

IBM Research, Yorktown Heights, NY, US

Research Intern, 2022

- Investigated how XAI methods could enhance web search on debated topics (CHIIR '23).

IBM, Amsterdam, NL

Research Intern, 2019

- Examined the real-world impact of algorithmic decisions on human trust (Persuasive '21).

SELECTED PUBLICATIONS

- Responsible Opinion Formation on Debated Topics in Web Search. A. Rieger, T. Draws, N. Mattis, D. Maxwell, D. Elswiler, U. Gadiraju, D. McKay, A. Bozzon, M. S. Pera. *ECIR 2024*.
- Collect, Measure, Repeat: Reliability Factors for Responsible AI Data Collection. O. Inel, T. Draws, L. Aroyo. *HCOMP 2023 — Best Paper Honorable Mention*.
- Disentangling Fairness Perceptions in Algorithmic Decision-Making: The Effects of Explanations, Human Oversight, and Contestability. M. Yurrita, T. Draws, A. Balayn, D. Murray-Rust, N. Tintarev, A. Bozzon. *CHI 2023 — Best Paper Award*.
- Comprehensive Viewpoint Representations for a Deeper Understanding of User Interactions With Debated Topics. T. Draws, O. Inel, N. Tintarev, C. Baden, B. Timmermans. *CHIIR 2022 — Best Paper Award*.
- A Checklist to Combat Cognitive Biases in Crowdsourcing. T. Draws, A. Rieger, O. Inel, U. Gadiraju, N. Tintarev. *HCOMP 2021 — Best Paper Award*.
- This Is Not What We Ordered: Exploring Why Biased Search Result Rankings Affect User Attitudes on Debated Topics. T. Draws, N. Tintarev, U. Gadiraju, A. Bozzon, B. Timmermans. *SIGIR 2021*.

EDUCATION

Delft University of Technology | PhD Computer Science, 2019 – 2023

- Researched viewpoint biases in web search and their effects on human cognition and decision-making (Thesis); graduated *cum laude*, among the top 5% PhDs in NL.
- Co-authored 27 papers (10 as first author) across top-tier venues (CHI, SIGIR, FAccT), accumulating 2650+ citations (h-index = 17, i10-index = 21).
- 4 × Best Paper and 1 × Honorable Mention across CHI, HCOMP, CHIIR, and Hypertext.
- Built ground truth datasets from human annotations, implemented ML models, and developed novel metrics to measure viewpoint bias in search results.
- Designed and analyzed behavioral experiments with data from 2500+ users.
- Taught HCI classes, supervised MSc theses, and regularly presented research findings.

University of Amsterdam | BSc & MSc Psychology, 2015 – 2019

- Track Behavioral Data Science, graduated *cum laude*.

PROJECTS

Statistical Test Finder A flowchart for finding the right statistical hypothesis test. 

SKILLS & INTERESTS

ML/AI supervised & unsupervised learning, deep learning, Bayesian methods, time series forecasting, foundation models, NLP, information retrieval, XAI, model interpretability

Behavioral Science & Measurement experimental design, psychometrics, causal inference, A/B testing, evaluation metric design, human evaluation, crowdsourcing & annotation quality, human-AI collaboration

Engineering Python, PyTorch, Hugging Face, SQL, R, Docker, GCP, Dagster, MLflow, Git

Languages German (native), English (C2), Dutch (C1), French (A1)

Personal Interests family, my dog Sepp, basketball, vinyl records, cooking