FYNN BACHMANN

Machine Learning, Probabilistic Modeling, Computational Social Science

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WORK EXPERIENCE

Ph.D. Candidate in Computer Science

University of Zurich

Sep 2022 – present | Switzerland

- Developing a mobile app for Adaptive Questionnaires in Voting Advice Applications (AQVAA-Platform)
- Conducting field experiments within the SNSF-funded project *D3: Digital Deliberative Democracy*
- Communicating results at major conferences, including ECML/PKDD, Collective Intelligence, ECPR, and IC2S2
- Organizing lectures with over 1,000 students and supervising 14 Bachelor and Master theses

Scientific Researcher

University of Hamburg

Oct 2021 – Aug 2022 | Germany

- Assisting in writing a BMBF grant that received funding of 9 mio. euro (project “Rescue Mate”)

PUBLICATIONS

Full papers

Bachmann, F., Weijden, D. van der, Sarasua, C., & Bernstein, A. (2025). *Estimating the Recommendation Certainty in Candidate-based Voting Advice Applications*. Forthcoming in in Politics & Governance. Special Issue on VAAs: Methodological Innovations, Behavioural Effects, and Research Perspectives.

Bachmann, F., Weijden, D. van der, Heitz, L., Sarasua, C., & Bernstein, A. (2025). *Adaptive political surveys and GPT-4: Tackling the cold start problem with simulated user interactions*. PLoS One.

Bachmann, F., Sarasua, C., & Bernstein, A. (2024). *Fast and Adaptive Questionnaires for Voting Advice Applications*. ECML/PKDD.

F. Bachmann, P. Hennig and D. Kobak (2023): *Wasserstein t-SNE*. ECML/PKDD.

Under review

Bachmann, F., Sarasua, C., & Bernstein, A. (working paper). *Adaptive Questionnaires for Voting Advice Applications: Three User Experiments on Recommendation Quality, Transparency, and Predictive Influence*.

Collaborations

Yang, J. C., & Bachmann, F. (2025). *Bridging Voting and Deliberation with Algorithms: Field Insights from vTaiwan and Kultur Komitee*. ACM FAccT.

RESEARCH INTERESTS

Voting Advice Applications

Active Learning, Conversational Agents

I’m interested in machine learning for democratic decision support, online deliberation, and societal impact of AI. In my Ph.D., I developed a latent-space model for adaptive questionnaires, featured in the next version of the Swiss VAA *Smartvote*.

ACHIEVEMENTS

DSI Excellence Fellow
Part of the 2023 cohort of the Ph.D. Excellence Programm of the Digital Society Initiative Zurich

Exchange Programs
Two exchange semester at the University of Utrecht and Université Grenoble Alpes

Civic Engagement
Elected high-school student representative and nominated for the “Studienstiftung des Deutschen Volkes”

SKILLS

German (native) | English (C1) | French (B1)

Python | SciPy | PyTorch | TensorFlow | Git | NestJS | Angular | Docker | PostgreSQL

EDUCATION

Ph.D. in Computer Science

University of Zurich

Sep 2022 – Aug 2026 | Switzerland

Ph.D. thesis: “Using Adaptive Questionnaires for Faster Ideal-Point Estimation in Political Surveys” supervised by Prof. Bernstein

M.Sc. in Machine Learning

Eberhard-Karls-University Tübingen

Oct 2019 – Sep 2021 | Germany

Master thesis title: “Wasserstein t-SNE and applications to social science” supervised by Prof. Hennig

B.Sc. in Physics

Ruprecht-Karls-University Heidelberg

Oct 2012 – Mar 2016 | Germany

Bachelor thesis: “Statistical data analysis on functional neuroimaging” supervised by Prof. Hamprecht