

# Andreas Küpfer

## Computational Social Scientist

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I analyze multimodal political communication, including social media, legislative speeches, and advertisements, using a combination of machine learning models and traditional methods to address substantial questions in Political Science and advance methodological research.

## Current Position

2022-present

### Ph.D. Candidate and Research Associate

Technical University of Darmstadt

Supervisors: Christian Stecker (Technical University of Darmstadt) and Christian Arnold (University of Birmingham)

## Education

2019-2022

### M.Sc. Data Science, University of Mannheim

Supervisors: Thomas Gschwend and Denis Cohen

*Thesis: When local context trumps party unity: Using Twitter and NLP to explain geographical heterogeneity in legislators' policy communication*

2015-2019

### B.Sc. Business Information Systems, University of Applied Sciences Karlsruhe

2017

**ERASMUS Student, B.Sc. Informatics**, Metropolia University of Applied Sciences in Helsinki, Finland

## Research Visits and Summer Schools

10/2024-02/2025

**Data and Methods Unit**, Mannheim Centre for European Research (MZES), University of Mannheim, Germany

06/2024

**Video Research Institute, Center for C-SPAN Scholarship & Engagement (CCSE) (Bryce Dietrich)**, Purdue University, US

02/2024-03/2024

**Centre for Artificial Intelligence in Government (CAIG) (Slava Jankin)**, University of Birmingham, UK

## Publications

2024

### [The Role of Hyperparameters in Machine Learning Models and How to Tune Them](#)

C. Arnold, L. Biedebach, A. Küpfer, M. Neunhoffer

Political Science Research and Methods (PSRM)

### [Nonrandom Tweet Mortality and Data Access Restrictions: Compromising the Replication of Sensitive Twitter Studies](#)

A. Küpfer

Political Analysis (PA)

## Working Papers

- 2023 **Alignment Helps Make the Most of Multimodal Data**  
C. Arnold, A. Küpfer  
(R&R at Political Analysis (PA))
- 2024 **Structuring Quantitative Image Analysis with Object Prominence**  
C. Arnold, A. Küpfer
- 2023 **The Politics of Seeking and Avoiding Discourse in Legislative Debates**  
E. Koch, A. Küpfer  
(R&R at European Journal of Political Research (EJPR))
- 2022 **Applause and interjections as tools of party competition: Evidence from 70 years of debates in the German Bundestag**  
A. Küpfer, J. Müller, C. Stecker  
(Under Review at British Journal of Political Science (BJPoS))
- 2022 **The housing crisis on social media: Housing markets and the subnational diversification of policy supply**  
D. Cohen, A. Küpfer, T. Allinger

## Grants, Certificates, and Awards

- 2024 **Grant: German Research Foundation (DFG) Grant "Analysing Legislative Politics with Aligned Text, Audio, and Image Data" with Christian Arnold and Christian Stecker, 285'000€**
- 2024 **Grant: APSA Political Communication SPARK Award, 750\$**
- 2025 **Certificate: TU Darmstadt Higher Education Teaching Certificates: Professional Competence Level (200 hours)**
- 2023 **Award: Athene Award for excellent teaching (TU Darmstadt), 2'000€**

## Research Dissemination

### Conferences

- 2024 **APSAP**<sup>P</sup>, Philadelphia, US
- 2024 **EPSAP**<sup>P</sup>, Cologne, Germany
- 2024 **COMPTExT**<sup>P</sup>, Amsterdam, Netherlands
- 2024 **IASGP Annual Conference**<sup>c</sup>, Darmstadt, Germany
- 2023 **IASGP Annual Conference**<sup>P</sup>, Mannheim, Germany
- 2023 **ECPR Standing Group on Parliaments**<sup>P,d,c</sup>, Vienna, Austria
- 2023 **EPSAP**<sup>P,d</sup>, Glasgow, UK
- 2023 **COMPTExT**<sup>P,c</sup>, Glasgow, UK
- 2022 **DVPW Group Comparative Research on Parliaments**<sup>P</sup>, Bremen, Germany
- 2022 **EPSAP**<sup>P</sup>, Prague, Czech Republic
- 2022 **PolMeth Europe**<sup>P</sup>, Hamburg, Germany
- 2021 **PolMeth Europe**, Virtual

## Press

- 2023 [Der Frankfurter Wahlkompass VOTO zur OB-Wahl 2023](#), [FAZ](#) (with Thilo Dieing and Christian Stecker)
- 2023 [Wahlrecht ab 16, mehr autofreie Zonen und gebührenfreie Kinderbetreuung? Die Positionen der Kandidierenden zur Oberbürgermeisterwahl in Darmstadt in der Online-Wahlhilfe VOTO](#), [Darmstädter Echo](#) (with Christian Stecker)
- 2023 [Wahlkompass bietet Orientierung im Kandidatenschwung \(FAZ\)](#), (with Christian Stecker)
- 2023 [Viele Köpfe und ein breites Angebot. Die Positionen der Kandidierenden zur Frankfurter Oberbürgermeisterwahl](#), [FAZ](#) (with Christian Stecker)

## Web Publications

- 2023 [BERT and Explainable AI](#), Method Bites, Blog of the Mannheim Centre for European Research (MZES) Social Science Data Lab
- 2022 [Collection, Management, and Analysis of Twitter Data](#), Method Bites, Blog of the Mannheim Centre for European Research (MZES) Social Science Data Lab

## Software

- 2022 **triviz**, Triangular visualizations for the significance of pairwise differences from multigroup comparisons (Denis Cohen and *Andreas Küpfer*)

## Teaching

- 2024 **Machine Learning for Social Scientists**, PhD graduate school course, MZES (with Ruben Bach)
- 2024 **Introduction to Analysis and Comparison of Political Systems**, Undergraduate proseminar, Technical University of Darmstadt
- 2023 **Quantitative Text Analysis in R**, Postgraduate seminar, Technical University of Darmstadt
- 2023 **Data Analysis: From Data Crawling to Visualization**, Guest lecture (180 minutes), National University of Kyiv-Mohyla Academy
- 2023 **Getting started with Python: A how-to guide for social scientists**, Workshop with two sessions à 90 minutes, MZES Social Science Data Lab (with Ruben Bach)
- 2022, 2023 **Introduction to Quantitative Methods in R**, Postgraduate seminar, Technical University of Darmstadt
- 2022 **Collection, Management, and Analysis of Twitter Data: Using the Twitter API for Academic Research and BERT**, Workshop (90 minutes), MZES Social Science Data Lab
- 2017 **IT Security and Operating Systems**, Undergraduate tutorial, University of Applied Sciences Karlsruhe
- 2016 **Programming II**, Undergraduate tutorial, University of Applied Sciences Karlsruhe
- 2016 **Introduction to Business Informatics**, Undergraduate tutorial, University of Applied Sciences Karlsruhe

## Referee

*Computational Linguistics for the Political and Social Sciences at KONVENS (Workshop) • Nature Scientific Data • Political Analysis • ZPol*

## Community Service

*Co-Organizer/Contributor of the [Social Science Data Lab \(SSDL\)](#) at MZES (since 03/2021) • Co-Organizer of the 2024 [ECPR Summer School on Parliaments](#) (08/2024) • Member of the decision committee for the German public-private scholarship (Deutschlandstipendium) (since 11/2023) • Data infrastructure representative (since 11/2023)*

## Selected Work Experience (Academia)

- 03/2021-09/2024 **Student Research Assistant at Social Science Data Lab**, Mannheim Centre for European Research (MZES) (Denis Cohen)
- 10/2020-12/2021 **Student Research Assistant at Chair of Political Science, Quantitative Methods in the Social Sciences**, University of Mannheim (Thomas Gschwend)
- 09/2021-12/2021 **Project Data Science and Big Data at Schools [Prodabi](#)**, Paderborn University (Rolf Biehler)

## Selected Work Experience (Industry)

- 07/2018-02/2020 **Working Student Data Science/Finance**, SAP SE in Walldorf, Germany
- 02/2018-07/2018 **Internship Custom Solution Development**, Capgemini in Stuttgart, Germany