

Summer Institute in Computational Social Science
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Analyzing Hungarian Parliamentary Debates with ManifestoBERTa

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Introduction

- Previously a leader in post-communist democratization, Hungary has undergone significant political transformations and ideological shifts (Herman, 2016)
- Recent challenges include democratic backsliding, heightened by anti-immigration discourse and populist rhetoric (Kornai, 2012; Bocskor, 2018; Bozoki, 2015)
- Hungary is seen as an ideal case of high political polarization (Vegetti, 2018)

Aim of our project

Explore which issues are more salient, how parties prioritize these topics, and the linguistic and sentiment polarity patterns in parliamentary speeches

Research Questions

- **Issue Salience:** How prominent are different topics in the parliamentary debates? (Wagner & Meyer, 2014)
- **Party Differences:** What are the differences between political parties in terms of the topics they address?
- **Language Complexity:** How complex is the language used in the parliamentary debates? (Spirling, 2016)
- **Sentiment Analysis:** How does sentiment polarity differ across some specific topics?

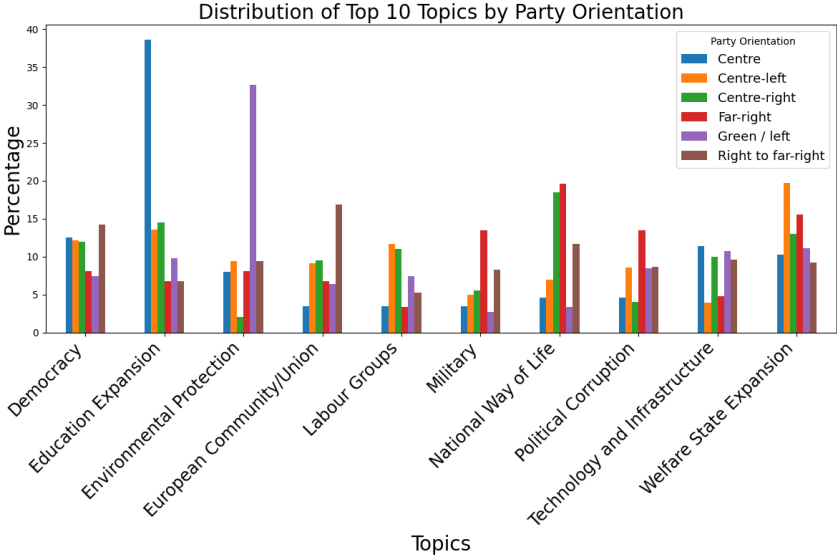
- **ParlaMint:** A comprehensive project compiling comparable parliamentary corpora across various countries and languages with English translations
- **Hungarian parliamentary debates:** analyzing debates from 2022 and 2023
 - Translated versions of the debates in English

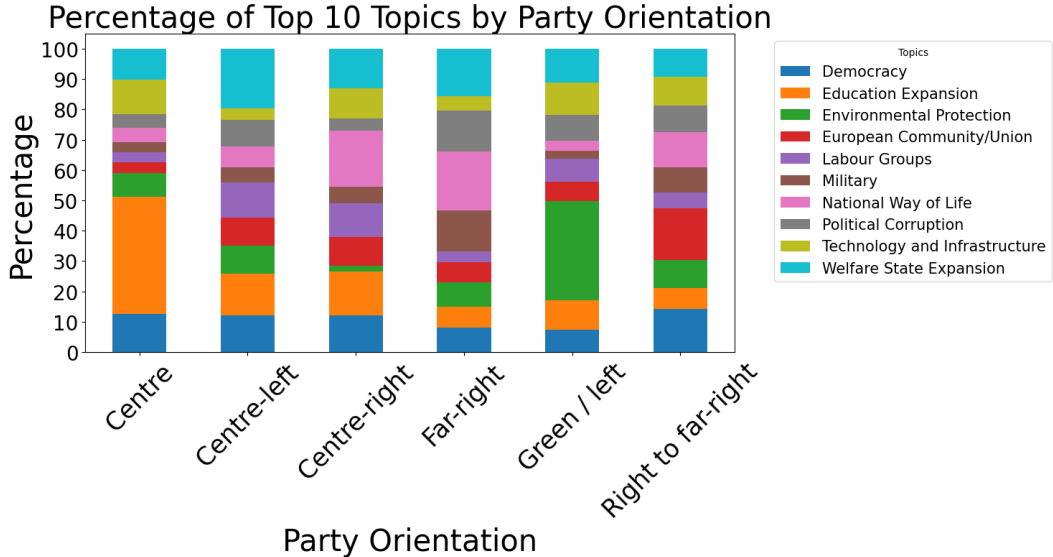


- **Manifesto Project:** An academic project that collects, analyzes, and categorizes political party manifestos to study party ideologies and strategies
- Used a **Manifestoberta** model fine-tuned on approximately 1.6 million annotated statements from the Manifesto Project's Corpus
 - This model can categorize any type of text into 56 different political topics according to the Manifesto Project's coding scheme
 - We analyze Hungarian parliamentary speeches from 2022 and 2023
- Used **Flesch Reading Ease** score for text complexity between 0 and 100
- Used **VADER** (Valence Aware Dictionary and sEntiment Reasoner) classifying sentiment polarity between -1 and 1

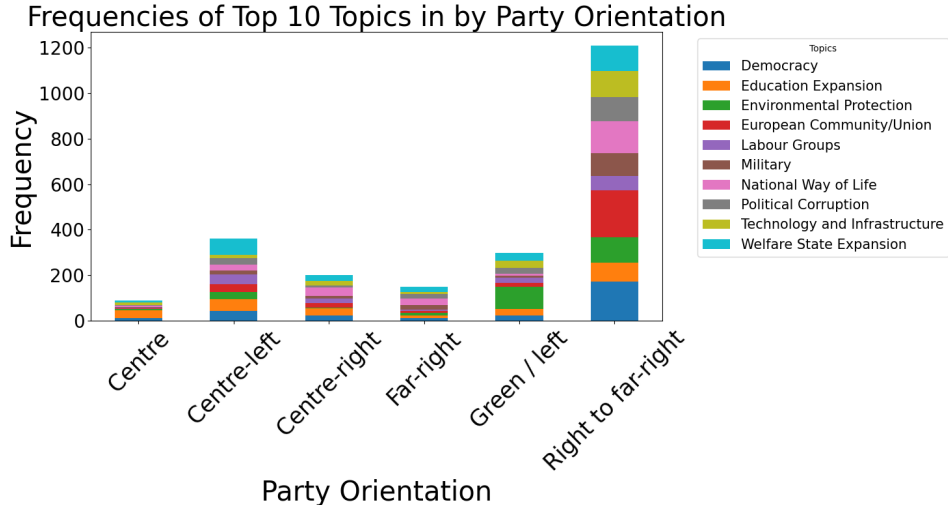
Data preparation

- Coded each speech according to the Manifesto typology
- Determine primary topic of each speech by taking highest-ranked topic
- Focused on top 10 topics present in the sample
(excluding *Political Authority*: too common)
- Coded parties by political orientation
→ Fidesz (incumbent): *Right to far-right*

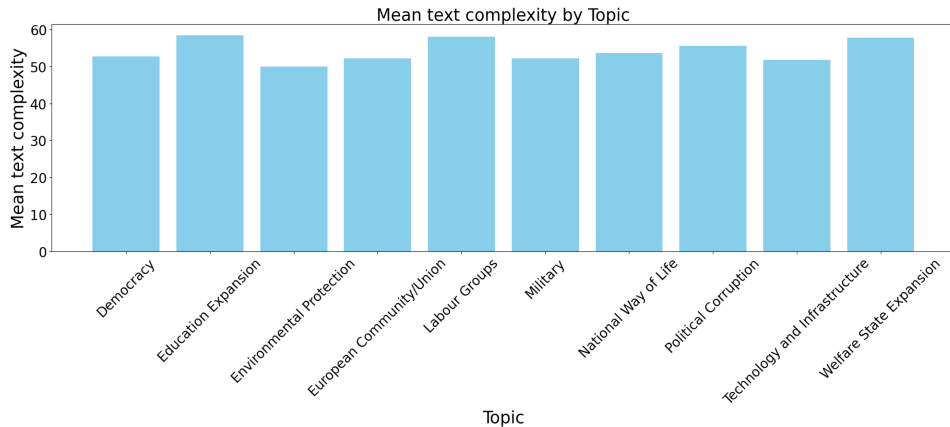




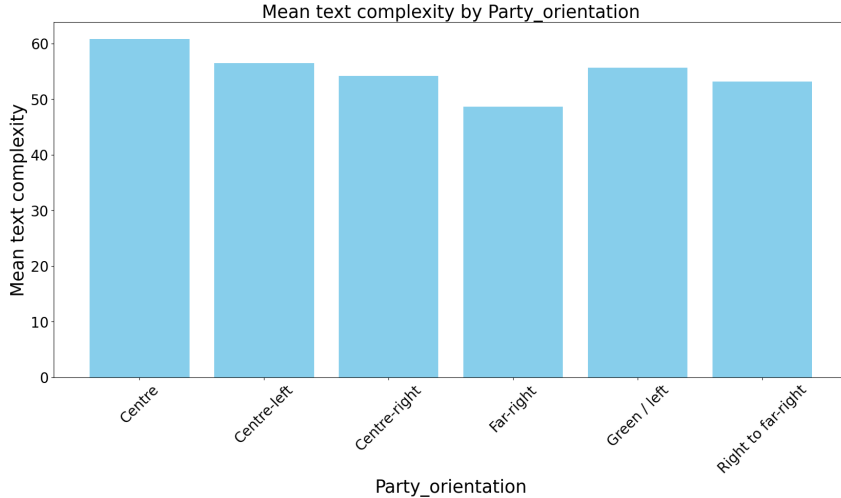
Differences across parties



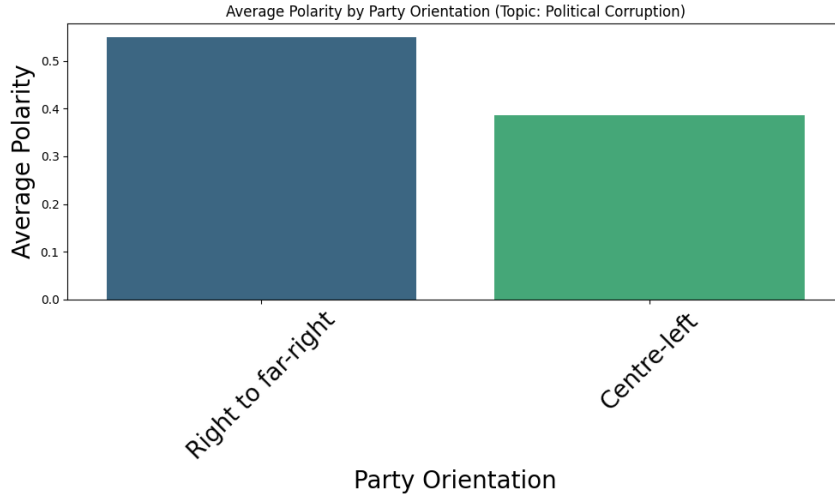
Language Complexity



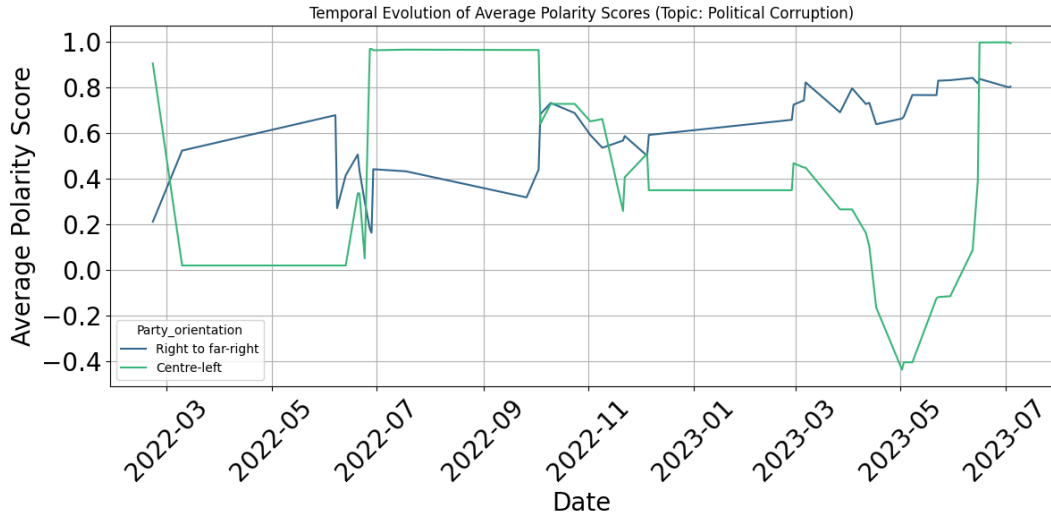
Language Complexity by Party Orientation



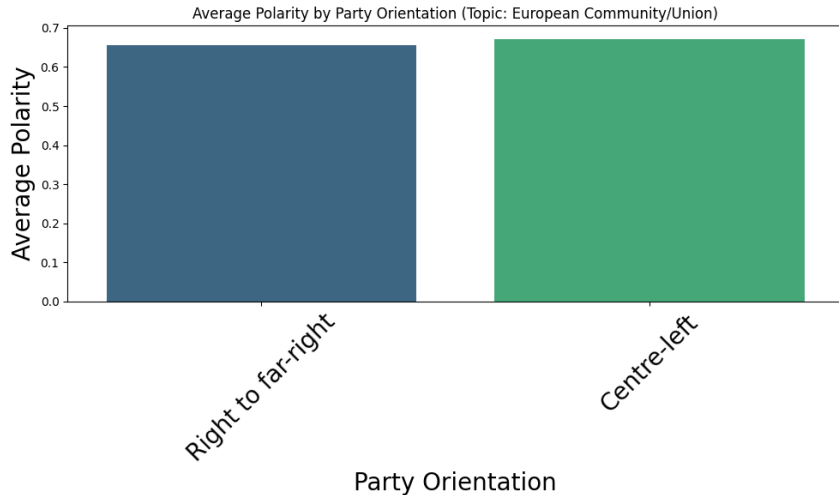
Political Corruption



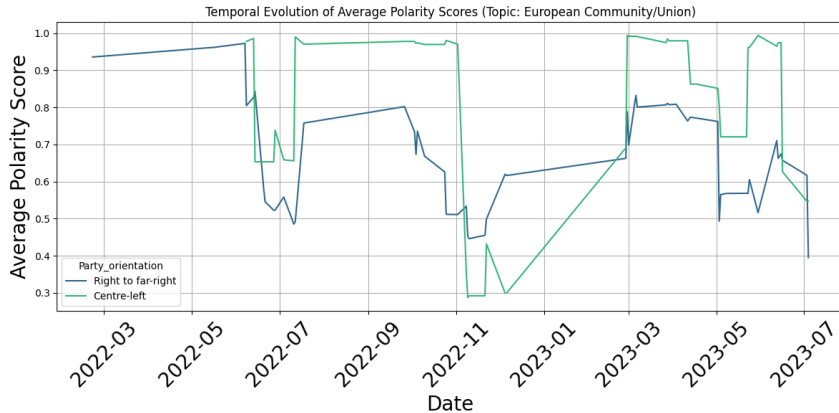
Political Corruption

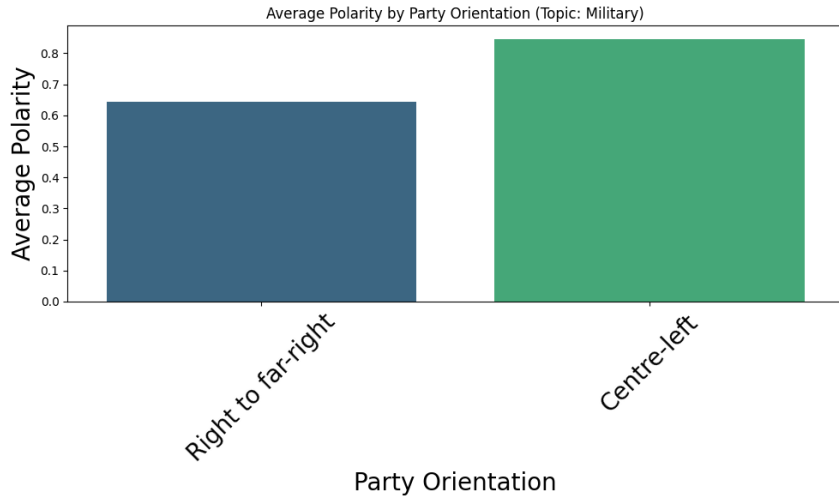


European Community/Union

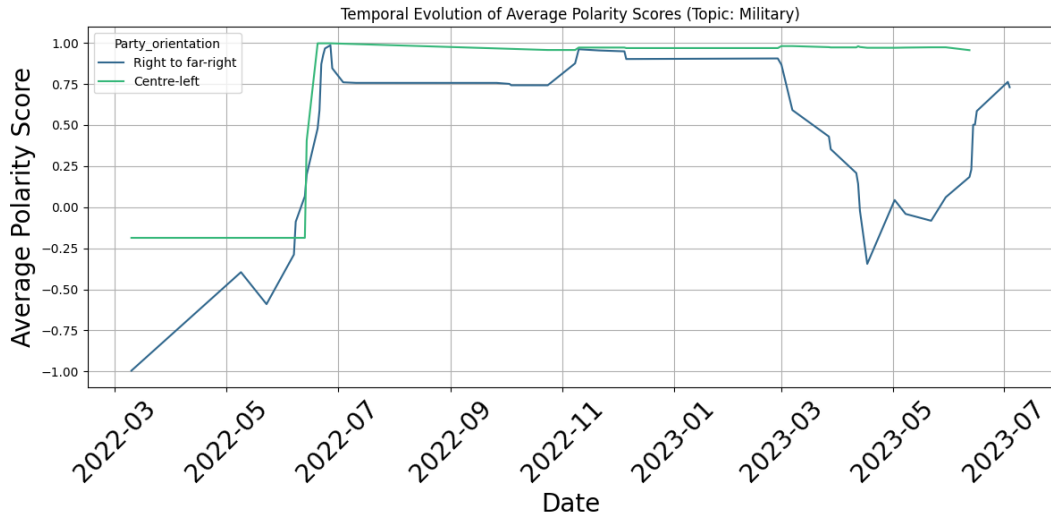


European Community/Union





Military



Limitations

- ManifestoBERTa is trained on Manifestos not on political/institutional debates
- Translated speeches to english
- VADER trained on social media text, not on political speech

Thank You for Your Attention!

References

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