Linguistics, NLP, and Political Communication

ESSLLI 2025, Bochum
Asad Sayeed and Ellen Breitholtz
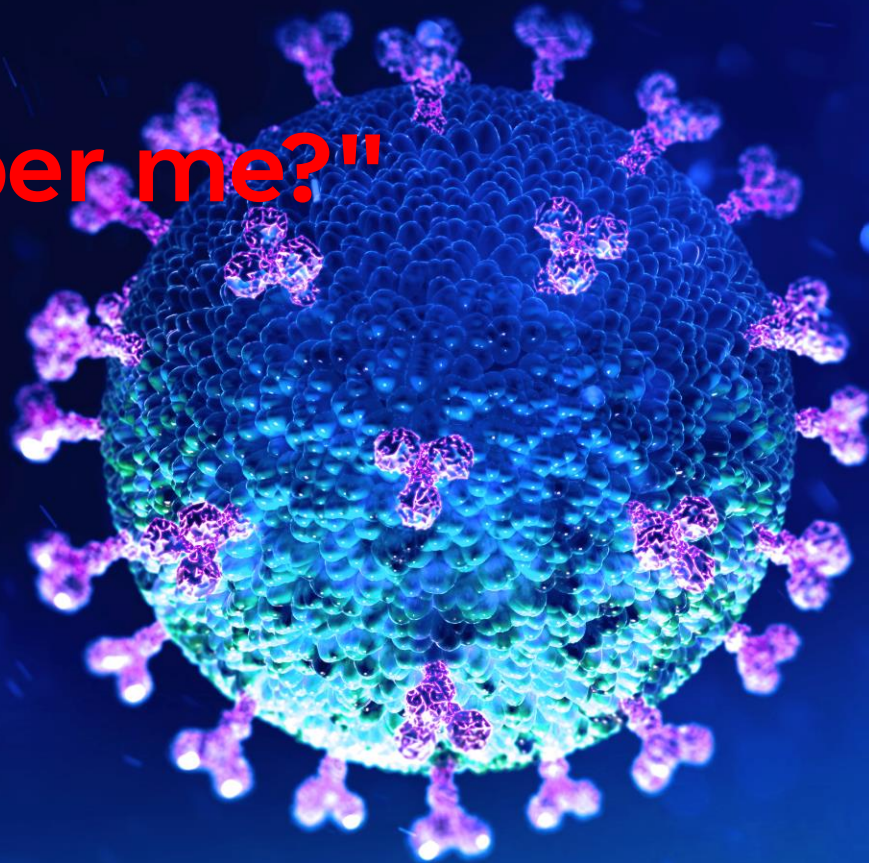
Agenda

What?

Why?

Who?

When?

"Remember me?"

LAB LEAK

THE TRUE ORIGINS OF *Covid-19*

THE ORIGIN

"The Proximal Origin of SARS-CoV-2" publication — which was used repeatedly by public health

Misinformation

- False or inaccurate information

Disinformation

- *Deliberate* false or inaccurate information.

Disinformation becomes misinformation

misinformation nlp detection

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Motivations, methods and metrics of **misinformation detection**: an **NLP** perspective
Q Su, M Wan, X Liu, CR Huang - **Natural Language Processing** Research, 2020 - Springer
… Although efforts have been made for decades, **misinformation** … **misinformation detection** from the perspective of **NLP** with a comprehensive review of misinformation analysis, **detection** …
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[PDF] springer.com

A survey on **natural language processing** for **fake news detection**
R Oshikawa, J Qian, WY Wang - arXiv preprint arXiv:1811.00770, 2018 - arxiv.org
…), and **NLP**. In this paper, we survey automated **fake news detection** from the perspective of **NLP**… Broadly speaking, we introduce the technical challenges in **fake news detection** and how …
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[PDF] arxiv.org

Fake news detection via **NLP** is vulnerable to adversarial attacks
Z Zhou, H Guan, MM Bhat, J Hsu - arXiv preprint arXiv:1901.09657, 2019 - arxiv.org
… of attacks targeting **fake news detectors**. Section 3 introduces … of **NLP**-based **detectors** and propose augmenting **detectors** … , as a step towards making **fake news detection** more robust. …
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[PDF] arxiv.org

[PDF] FakeWhastApp. BR: **NLP** and Machine Learning Techniques for **Misinformation Detection** in Brazilian Portuguese WhatsApp Messages.
L Cabral, JM Monteiro, JWF da Silva… - ICEIS (1 …, 2021 - pdfs.semanticscholar.org
… order to build **misinformation detection** models. However, these metadata will be used in future works to improve the performance of the proposed **misinformation detection** approaches. …
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[PDF] semanticscholar.org

[PDF] A Literature Review of **NLP** Approaches to **Fake News Detection** and Their Applicability to RomanianLanguage News Analysis.
C Busioc, S Ruseti, M Dascalu - Revista Transilvania, 2020 - revistatransilvania.ro
… identification solutions based on **Natural Language Processing** (**NLP**) techniques. In this … of English **fake news**, discuss potential **detection** techniques for Romanian **fake news**, as well …
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[PDF] revistatransilvania.ro

Fake news detection in social media using graph neural networks and **NLP** Techniques: A COVID-19 use-case
A Hamid, N Shiekh, N Said, K Ahmad, A Gul… - arXiv preprint arXiv …, 2020 - arxiv.org
… On the other hand, for structure-based **fake news detection**, … structure for the possible **detection** of the **fake news**. For the first … with the textual information for better **detection** of **fake news**. …
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[PDF] arxiv.org

misinformation llm

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Can llm-generated misinformation be detected?

[PDF] arxiv.org

C Chen, K Shu - arXiv preprint arXiv:2309.13788, 2023 - arxiv.org

…), our finding is: **LLM**-generated **misinformation** can be harder to detect for both … **misinformation** with the same semantics. The straight implication is that **LLM**-generated **misinformation** …

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Just saying...

Unmasking Digital Falsehoods: A Comparative Analysis of **LLM**-Based **Misinformation** Detection Strategies

[PDF] arxiv.org

T Huang, J Yi, P Yu, X Xu - arXiv preprint arXiv:2503.00724, 2025 - arxiv.org

… proliferation of **misinformation** on social … **misinformation** based on their advanced natural language understanding and reasoning capabilities. This paper conducts a comparison of **LLM**-…

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Dell: Generating reactions and explanations for llm-based misinformation detection

[PDF] arxiv.org

H Wan, S Feng, Z Tan, H Wang, Y Tsvetkov… - arXiv preprint arXiv …, 2024 - arxiv.org

… Further analysis reveals that the generated reactions and explanations are greatly helpful in **misinformation** detection, while our proposed **LLM**-guided merging helps produce better-…

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Toward mitigating **misinformation** and social media manipulation in **llm** era

[PDF] acm.org

Y Zhang, K Sharma, L Du, Y Liu - … of the ACM Web Conference 2024, 2024 - dl.acm.org

… **misinformation** in **LLM** era. Besides our tutorials, other organizers host some related tutorials before The rise of **LLM**. … to discuss the advanced techniques of **fake news** detection [42, 47]. …

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Combating **misinformation** in the age of llms: Opportunities and challenges

[PDF] wiley.com

C Chen, K Shu - AI Magazine, 2024 - Wiley Online Library

… Then, we will illustrate the new threats brought by **LLM**generated **misinformation** in different fields, and the countermeasures. Finally, looking ahead, we will discuss the potential risks in …

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Detecting **misinformation** with LLM-predicted credibility signals and weak supervision.

[PDF] whiterose.ac.uk

JA Leite, O Razuvayevskaya, K Bontcheva, C Scarton - 2023 - eprints.whiterose.ac.uk

… shot **LLM** credibility signal labeling and weak supervision, outperforms state-of-the-art classifiers on two **misinformation** … new valuable insights into their role in **misinformation** detection. …

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Med-mmhl: A multi-modal dataset for detecting human-and llm-generated

[PDF] arxiv.org

If only we could give people correct information...

...then we'll solve all the world's problems!

Trumpism Can't Be Broken With the Hammer of Reason Because It's a Wave, Not a Wall

The sledgehammers of facts, reason and logic are useless to stem the MAGA tide, argues Christian Christensen

BYLINE SUPPLEMENT

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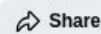## Fmr CDC director admits 'long covid' is vaccine injury

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GregoryHD • 2mo ago

Well lookie here, that's what we've been saying all along

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> **Emily-Jo-Collins** • 2mo ago
>
> It's too bad people didn't listen to those of us Who didn't Listen to the man on the TV and did our own research!
>
> ⬆ 13 ⬇   💬 Reply   🏅 Award   ↗ Share   ...

Political dogwhistles
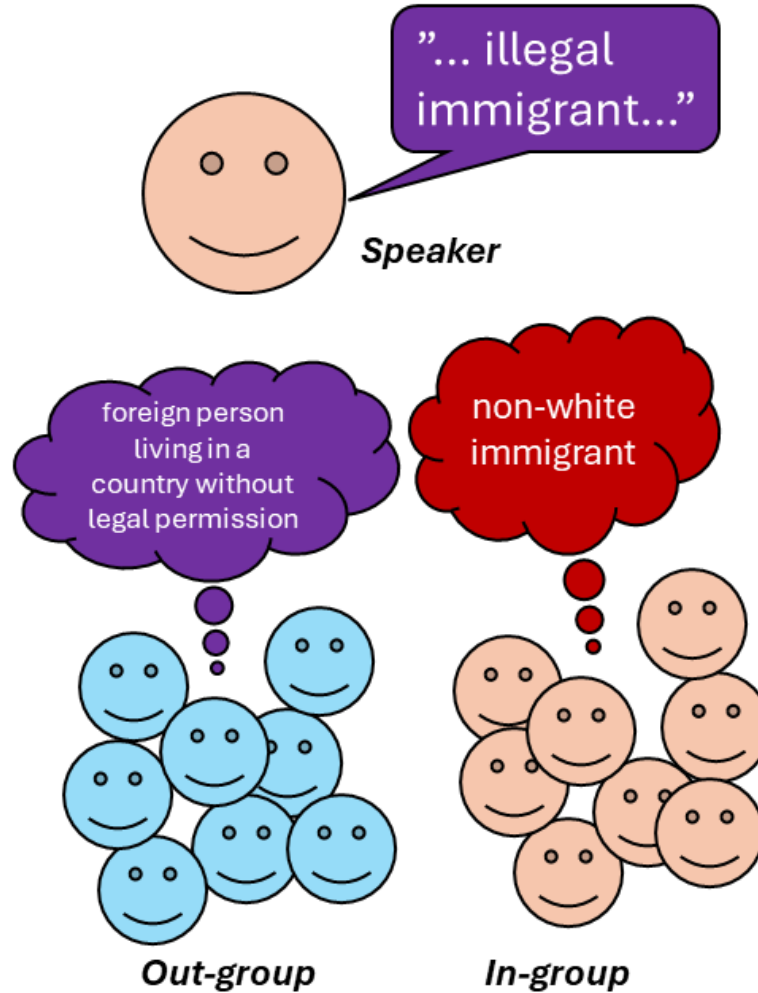
Dogwhistles as misinformation

Obscuring democratic choice: what does the speaker/politician really believe?

Connected to conspiracy theories.

Weaponizing in-group/out-group dynamic: identity performance and derogation.

Dogwhistles as linguistic objects

Dogwhistles as political objects
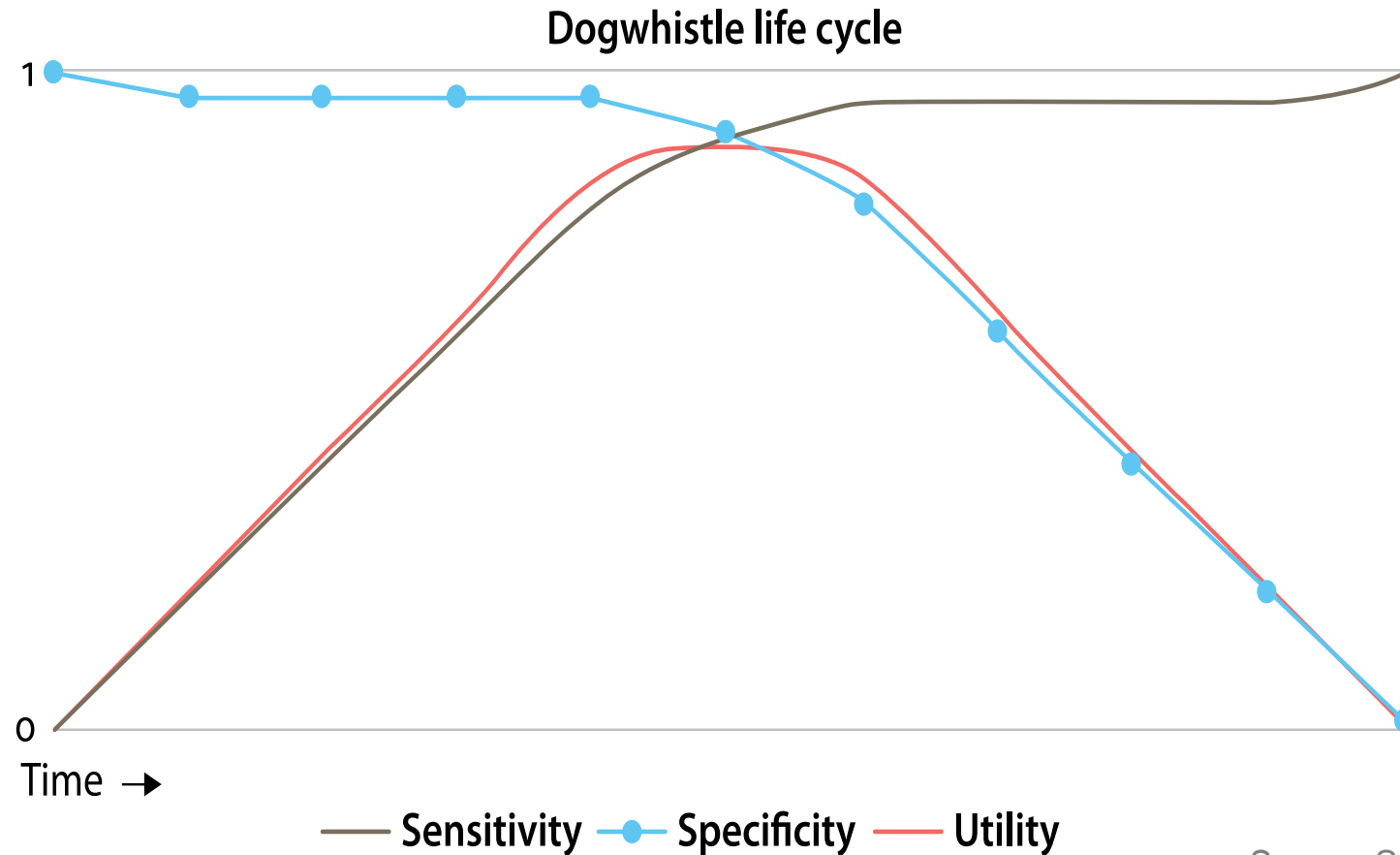
Dogwhistle life cycle

1

0

Time →

Sensitivity ● Specificity ● Utility

Dogwhistles as the object of NLP research
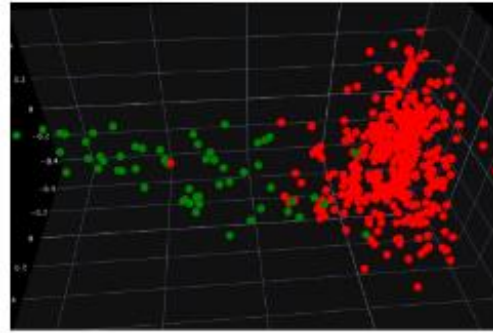
Figure 1: Responses for dogwhistle "enrich" represented in the semantic space. Coded in-group responses colored green.
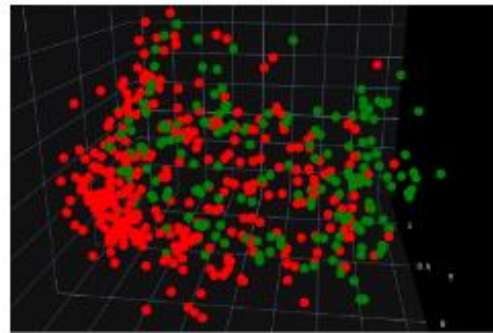

Figure 2: Dogwhistle "remigration" represented in the semantic space. Coded in-group responses colored green. Additional plots are in supplementary material.

Research questions (re dogwhistles)

Linguists:

what do dogwhistles **mean**?

Internalist, representational perspective.

Political scientists:

Given the meaning of the dogwhistle, what do people **do**?

NLP (or AI or whatever):

Given what people **mean** by a dogwhistle and what they **do** with it, how can we automatically identify, process them etc?

Research questions (re *political language*)

Linguists:

What does *political language* **mean**?

Internalist, representational perspective.

Political scientists:

Given meaning, what do people **do**?

NLP (or AI or whatever):

Given what people **mean** by *political language* and what they **do** with it, how can we automatically identify, process it etc?

GRIPES

GOTHENBURG RESEARCH INITIATIVE FOR POLITICALLY EMERGENT SYSTEMS
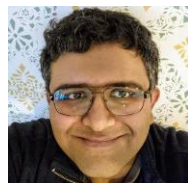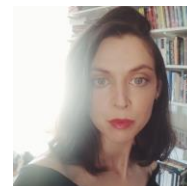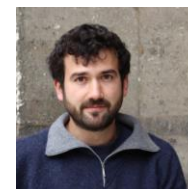
Theoretical linguistics

Ellen Breitholtz
Robin Cooper

Gregor Rettenegger (PhD)

Elina Lindgren
Björn Rönnerstrand

Max Boholm

Me :)

Machine learning/NLP
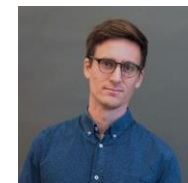
Opinion research

The overview of the week

- Today: Theories/methods in political communication research.

- Tomorrow: Linking political communications with linguistics/NLP

- Day after tomorrow: opinion research and language

- Day after day after tomorrow: persona and political utility

- Day the last: NLP and dogwhistles

The aim

- Cambridge Analytica scandal: AI techniques used to optimize messages.

- OTOH: New concepts in linguistics and AI techniques mean greater opportunities for research into political phenomena.

- Create synthesis between these fields.