

Seminar Natural Language Generation (NLG) — Part 2

Overview of Seminar Topics

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Assignment of seminar topics

- **This talk**

- Overview of 15 possible seminar topics, presented by the respective advisors
- For each topic, one article is given that provides *one* basis of the topic

- **Concept behind**

- Each seminar participant will be assigned one topic
- One articles and *at least* one further relevant article to be found by you should equally form the basis of the talk and the article
- You can choose topic preferences, we then assign topics

- **Your task**

- Inform yourself about the topics and articles in this presentation
- Choose 3 topics with preferences
- **Until Tuesday, April 22, 18:00 GMT+2.** Send e-mail with preferences

Both direct e-mail and Stud.IP message are fine.



Choosing preferences: eMail and subsequent process

▪ Your e-mail

- **Recipient.** h.wachsmuth@ai.uni-hannover.de
- **Subject.** "[nlg] Topic preferences"
- **Content.** Your name, matriculation number, and 3 topic preferences
- **Example.** On the right, you see how the content of your e-mail could look like

Name:

Maja Brinkmann

Matriculation number:

1234567

Topic preferences:

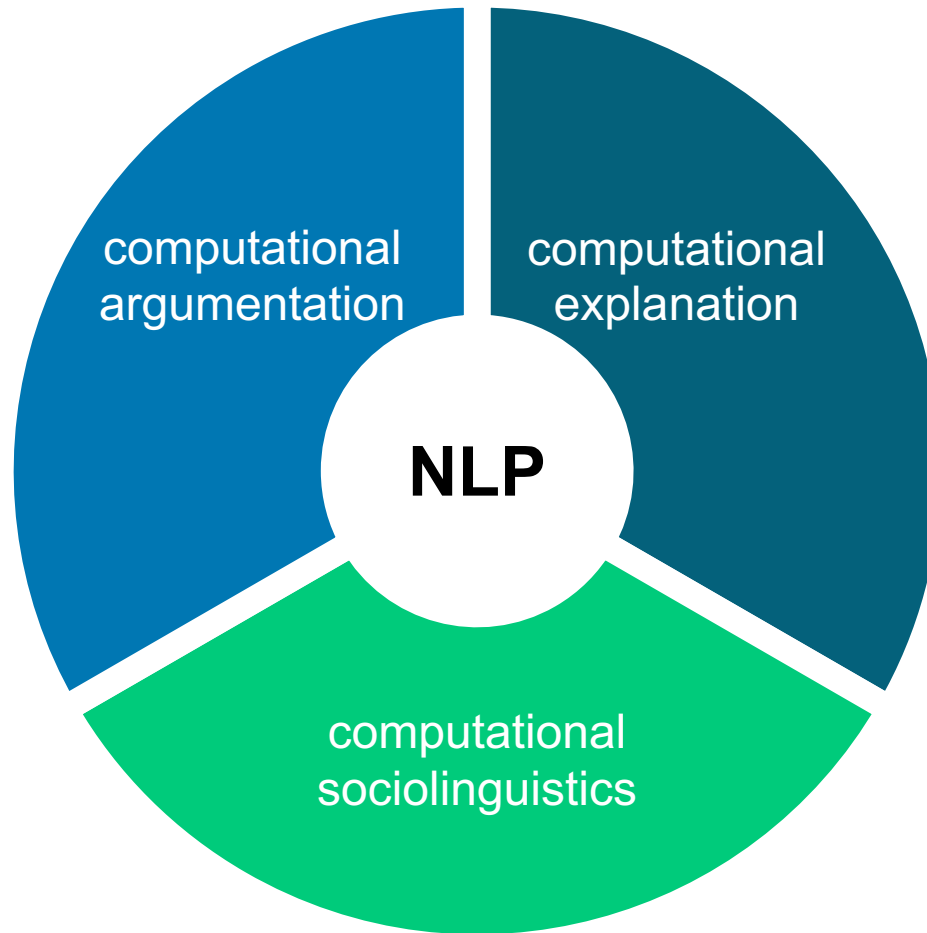
- 1) E3. Conceptual metaphors
- 2) A1. Perspectivist approaches for NLP
- 3) S1. Sociodemographic prompting

▪ Subsequent process

- We will assign topics based on your preferences, advisor load, special reasons, and randomly
- If you don't send your e-mail in time, you will *not* be assigned any topic
- The final schedule will be decided based on the topic assignment
You can get a rough idea of the schedule from the ordering on the next slides.
- Topic assignment and schedule will be announced next week

Overview of topics

Seminar topics organized by research areas



Topics for the seminar talks and articles (1 out of 2)

▪ General NLP

- G1. Task-specific Fine-Tuning Yamen
- G2. Human-LLM Collaboration for Annotation Yamen



▪ Computational argumentation

- A1. Perspectivist Approaches in NLP Yamen
- A2. Discussion Moderation Carlotta



▪ Computational explanation

- E1. Metaphor understanding Meghdut
- E2. Metaphors in medical AI Meghdut
- E3. Conceptual metaphors Meghdut



More on next slide...

Topics for the seminar talks and articles (2 out of 2)

▪ Computational argumentation

- A3. Enthymeme Reconstruction
- A4. Argument Rewriting

Maja
Timon



▪ General NLP

- G3. LLM Steering

Leandra



▪ Computational explanation

- E4. Reasoning Capabilities of LLMs

Leandra



▪ Computational sociolinguistics

- S1. Sociodemographic prompting
- S2. Prompt compositions
- S3. Bias in large language models
- S4. Gender-fair language rewriting

Leandra
Max
Max
Max

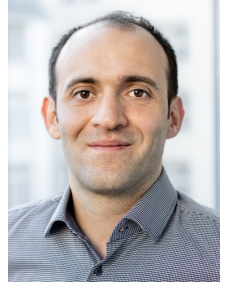


Topics and Literature

Topics supervised by Yamen

G1. Task-specific fine-tuning

- David Schulte, Felix Hamborg, Alan Akbik (2024). Less is More: Parameter-Efficient Selection of Intermediate Tasks for Transfer Learning. <https://aclanthology.org/2024.emnlp-main.529>



G2. Human-LLM collaboration for annotation

- Minzhi Li, Taiwei Shi, Caleb Ziems, Min-Yen Kan, Nancy F. Chen, Zhengyuan Liu, Diyi Yang (2023). CoAnnotating: Uncertainty-Guided Work Allocation between Human and Large Language Models for Data Annotation. <https://aclanthology.org/2023.emnlp-main.92>

A1. Perspectivist approaches for NLP

- Julia Romberg, Maximilian Maurer, Henning Wachsmuth, Gabriella Lapesa (2025). Towards a Perspectivist Turn in Argument Quality Assessment. <https://arxiv.org/pdf/2502.14501>

Topics supervised by Meghdut

E1. Metaphor understanding

- Xiaoyu Tong, Rochelle Choenni, Martha Lewis, Ekaterina Shutova (2024). Metaphor Understanding Challenge Dataset for LLMs. <https://aclanthology.org/2024.acl-long.193>



E2. Metaphors in medical AI

- Jiacheng Tang, Nankai Wu, Fan Gao, Chengxiao Dai, Mengyao Zhao, Xinjie Zhao (2025). From Metaphor to Mechanism: How LLMs Decode Traditional Chinese Medicine Symbolic Language for Modern Clinical Relevance. <https://arxiv.org/pdf/2503.02760>

E3. Conceptual metaphors

- Xincheng Shou, Xioxi Huang, Wenlong Xi (2024). Conceptual Metaphor Theory Guides GANs for Generating Metaphors and Interpretations. <https://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=10500412>

Topics supervised by Carlotta, Maja, and Timon

A2. Discussion moderation with LLMs

- Hyundong Cho, Shuai Liu, Taiwei Shi, Darpan Jain, Basem Rizk, Yuyang Huang, Zixun Lu, Nuan Wen, Jonathan Gratch, Emilio Ferrara, and Jonathan May (2024). Can Language Model Moderators Improve the Health of Online Discourse? <https://aclanthology.org/2024.naacl-long.415/>



A3. Enthymeme reconstruction

- Maja Stahl, Nick Düsterhus, Mei-Hua Chen, Henning Wachsmuth (2023). Mind the Gap: Automated Corpus Creation for Enthymeme Detection and Reconstruction in Learner Arguments. <https://aclanthology.org/2023.findings-emnlp.312/>



A4. Argument rewriting

- Timon Ziegenbein, Gabriella Skitalinskaya, Alireza Bayat Makou, and Henning Wachsmuth. 2024. LLM-based Rewriting of Inappropriate Argumentation using Reinforcement Learning from Machine Feedback. <https://aclanthology.org/2024.acl-long.244>



Topics supervised by Leandra

G1. LLM steering

- Kai Konen, Sophie Jentzsch, Diaoulé Diallo, Peer Schütt, Oliver Bensch, Roxanne El Baff, Dominik Opitz, Tobias Hecking (2024). Style Vectors for Steering Generative Large Language Models. <https://aclanthology.org/2024.findings-eacl.52>



S1. Sociodemographic prompting

- Tilman Beck, Hendrik Schuff, Anne Lauscher, Iryna Gurevych (2024). Sensitivity, Performance, Robustness: Deconstructing the Effect of Sociodemographic Prompting. <https://aclanthology.org/2024.eacl-long.159/>

E4. Reasoning capabilities of LLMs

- Badr Alkhamissi, Siddharth Verma, Ping Yu, Zhijing Jin, Asli Celikyilmaz, Mona Diab (2023). OPT-R: Exploring the Role of Explanations in Finetuning and Prompting for Reasoning Skills of Large Language Models. <https://aclanthology.org/2023.nlrse-1.10>

Topics supervised by Max

S2. Prompt compositions

- Maximilian Spliethöver, Tim Knebler, Fabian Fumagalli, Maximilian Muschalik, Barbara Hammer, Eyke Hüllermeier, Henning Wachsmuth (2025). Adaptive Prompting: Ad-hoc Prompt Composition for Social Bias Detection. <https://arxiv.org/abs/2502.06487>



S3. Bias in large language models

- Jisu Shin, Hoyun Song, Huije Lee, Soyeong Jeong, Jong Park (2024). Ask LLMs Directly, “What shapes your bias?”: Measuring Social Bias in Large Language Models. <https://aclanthology.org/2024.findings-acl.954/>

S4. Gender-Fair language rewriting

- Chantal Amrhein, Florian Schottmann, Rico Sennrich, Samuel Lüubli (2023). Exploiting Biased Models to De-bias Text: A Gender-Fair Rewriting Model. <https://aclanthology.org/2023.acl-long.246/>

Sum-up

Conclusion

▪ Seminar topics

- 15 candidate topics related to our research areas
- Each of you will be assigned one of these topics
- Given + further literature form the basis of talk and article



▪ Topic assignment

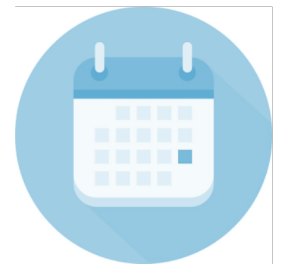
- You choose topic preferences, we assign topics
- Inform yourself about the topics of the given literature
- [Send me your topic preferences by Tuesday 18:00 next week!](#)



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▪ Next up

- Topic assignment will be presented in the next session
- Talk preparation starts then
- Basics of scientific presentation in the upcoming week



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