Seminar Natural Language Generation (NLG) — Part 2

Overview of Seminar Topics

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Natural Language Processing

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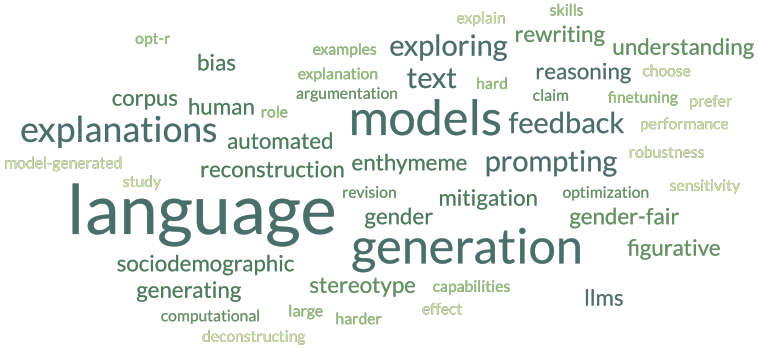
Assignment of seminar topics

- **This talk**
  - Overview of 20 possible seminar topics, presented by the respective advisors
  - For each topic, one article is given that provide *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 Monday, April 15, 23:59 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

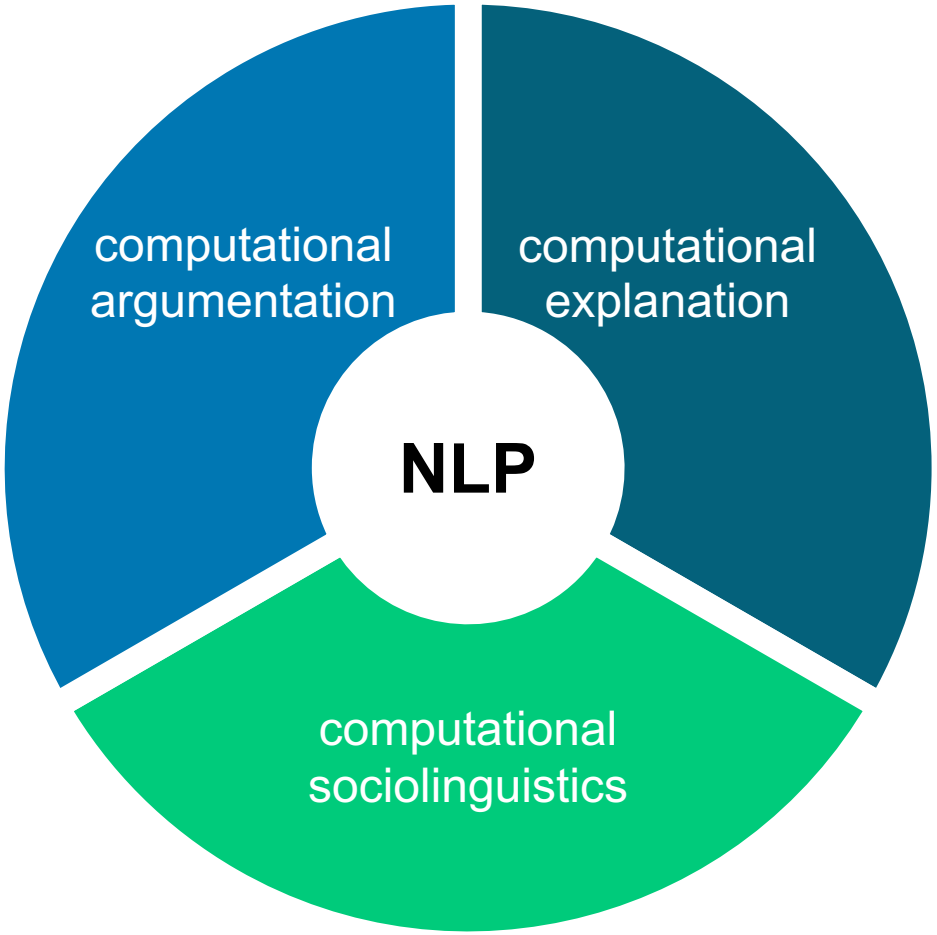
Matriculation number:
1234567

Topic preferences:
1) S6. Sociodemographic Prompting
2) G1. Instruction Fine-Tuning of LLMs
3) S2. Gender-Fair Language Rewriting

- **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 area



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

- **General NLP**
  - G1. Instruction Fine-Tuning of LLMs — Timon

- **Computational argumentation**
  - A1. Conclusion Generation — Timon
  - A2. Persuasive Story Generation — Yamen
  - A3. Text Revision Generation — Gabriella
  - A4. Enthymeme Reconstruction — Maja
  - A5. Essay Scoring — Maja
  - A6. Feedback Comment Generation — Maja

More on next slide…

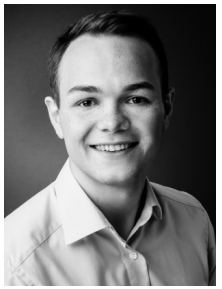
Topics for the seminar talks and articles (2 out of 2)

- **Computational sociolinguistics**
  - S1. Gender Bias Mitigation — Maja
  - S2. Gender-Fair Language Rewriting — Max
  - S3. Bias in Zero-Shot Reasoning — Max
  - S4. Prompting-based Stereotype Testing — Max
  - S5. Stereotype Response Generation — Max
  - S6. Sociodemographic Prompting — Leandra

- **Computational explanation**
  - E1. Reasoning Capabilities of LLMs — Leandra
  - E2. Explainable Recommendation — Leandra
  - E3. Explanation Quality — Leandra
  - E4. Post-hoc Explainability — Meghdut
  - E5. Metaphor Interpretation — Meghdut
  - E6. Figurative Language Understanding — Meghdut
  - E7. Metaphorical Paraphrasing — Meghdut

Topics and Literature

Topics supervised by Timon, Yamen, and Gabriella

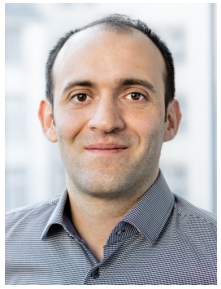


G1. Instruction Fine-Tuning of LLMs

- Long Ouyang, Jeff Wu, Xu Jiang, Diogo Almeida, Carroll L. Wainwright, Pamela Mishkin et al. (2022). Training Language Models to Follow Instructions with Human Feedback. https://proceedings.neurips.cc/paper_files/paper/2022/hash/b1efde53be364a73914f58805a001731-Abstract-Conference.html

A1. Conclusion Generation

- Timon Gurcke, Milad Alshomary, and Henning Wachsmuth (2021). Assessing the Sufficiency of Arguments through Conclusion Generation https://aclanthology.org/2021.argmining-1.7/



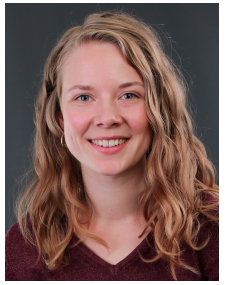
A2. Persuasive Story Generation

- Neele Falk. Gabriella Lapesa (2023). StoryARG: A Corpus of Narratives and Personal Experiences in Argumentative Texts. https://aclanthology.org/2023.acl-long.132

A3. Text Revision Generation

- Gabriella Skitalinskaya, Maximilian Spliethöver, Henning Wachsmuth (2022). Claim Optimization in Computational Argumentation. https://aclanthology.org/2023.inlg-main.10/

Topics supervised by Maja



A4. 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/

A5. Essay Scoring

- Maja Stahl, Nadine Michel, Sebastian Kilsbach, Julian Schmidtke, Sara Rezat, and Henning Wachsmuth (2024). A School Student Essay Corpus for Analyzing Interactions of Argumentative Structure and Quality. https://arxiv.org/abs/2404.02529

A6. Feedback Comment Generation

- Kazuaki Hanawa, Ryo Nagata, Kentaro Inui (2021). Exploring Methods for Generating Feedback Comments for Writing Learning. https://aclanthology.org/2021.emnlp-main.766/

S1. Gender Bias Mitigation

- Maja Stahl, Maximilian Spliethöver, Henning Wachsmuth (2022). To Prefer or to Choose? Generating Agency and Power Counterfactuals Jointly for Gender Bias Mitigation. https://aclanthology.org/2022.nlpcss-1.6/

Topics supervised by Max

S2. Gender-Fair Language Rewriting

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

S3. Bias in Zero-Shot Reasoning

- Omar Shaikh, Hongxin Zhang, William Held, Michael Bernstein, Diyi Yang, Anna Rogers, Jordan Boyd-Graberm, Naoaki Okazaki (2023). On Second Thought, Let's Not Think Step by Step! Bias and Toxicity in Zero-Shot Reasoning. https://aclanthology.org/2023.acl-long.244

S4. Prompting-based Stereotype Testing

- Myra Cheng, Esin Durmus, Dan Jurafsky (2023). Marked Personas: Using Natural Language Prompts to Measure Stereotypes in Language Models. https://aclanthology.org/2023.acl-long.84/

S5. Stereotype Response Generation

- Kathleen Fraser, Svetlana Kiritchenko, Isar Nejadgholi, Anna Kerkhof (2023). What Makes a Good Counter-Stereotype? Evaluating Strategies for Automated Responses to Stereotypical Text. https://aclanthology.org/2023.sicon-1.4/

Topics supervised by Leandra

S6. 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/

E1. 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

E2. Explainable Recommendation

- Lei Li, Yongfeng Zhang, Li Chen (2021). Personalized Transformer for Explainable Recommendation. https://aclanthology.org/2021.acl-long.383

E3. Explanation Quality

- Bingsheng Yao, Prithviraj Sen, Lucian Popa, James Hendler, Dakuo Wang (2023). Are Human Explanations Always Helpful? Towards Objective Evaluation of Human Natural Language Explanations. https://aclanthology.org/2023.acl-long.821

Topics supervised by Meghdut

E4. Post-hoc Explainability

- Satyapriya Krishna, Jiaqi Ma, Dylan Slack, Asma Ghandeharioun, Sameer Singh, Himabindu Lakkaraju (2023). Post Hoc Explanations of Language Models Can Improve Language Models. https://proceedings.neurips.cc/paper_files/paper/2023/hash/ce65173b994cf7c925c71b482ee14a8d-Abstract-Conference.html

E5. Metaphor Interpretation

- Meghdut Sengupta, Milad Alshomary, Ingrid Scharlau, Henning Wachsmuth (2023). Modeling Highlighting of Metaphors in Multitask Contrastive Learning Paradigms. https://aclanthology.org/2023.findings-emnlp.308/

E6. Figurative Language Understanding

- Tuhin Chakrabarty, Arkadiy Saakyan, Debanjan Ghosh, Smaranda Muresan (2022). FLUTE: Figurative Language Understanding through Textual Explanations. https://aclanthology.org/2022.emnlp-main.481

E7. Metaphorical Paraphrasing

- Kevin Stowe, Nils Beck, Iryna Gurevych (2021). Exploring Metaphoric Paraphrase Generation. https://aclanthology.org/2021.conll-1.26

Sum-up

Conclusion

- **Seminar topics**
  - 20 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 Monday next week!

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