



## Natural Language Generation

### Motivation

In the past few decades we have witnessed a fast growth of information content in all types of mass media. As the volume of published data grows, accessing and processing information in the shortest possible time is becoming of vital importance. Natural Language Generation (NLG) is the process of mapping from some underlying representation of information to a presentation of that information in an easily accessible textual or spoken form. NLG application spectrum includes question answering and recommendation systems, personalized assistants and human-computer interfaces, document summarizers and news generation machines. The goal of this thesis is to develop novel NLG approaches, design accurate evaluation methods and use NLG techniques for solving real-world problems.

### Tasks

We offer several topics for bachelor and master thesis, including the following tasks:

- Analysis of salient NLG evaluation criteria.
- Automatic quality assessment of NLG systems.
- NLG system design and applications.
- Effective optimization techniques for NLG.

Note: your task and its scope are subject to discussion and will be adapted to the targeted thesis type.

### References

- Anja Belz and Ehud Reiter. Comparing automatic and human evaluation of NLG systems. EACL 2006, pages 313-320.
- Dimitra Gkatzia, Saad Mahamud. A snapshot of NLG evaluation practices 2005-2014. ENLG 2015, pages 57-60.
- Jekaterina Novikova, Ondřej Dušek, Amanda Cercas Curry, Verena Rieser. Why We Need New Evaluation Metrics for NLG. EMNLP 2017, pages 2231–2242.

### Contact

Analysis



Programming



Literature



Prof. Dr. Iryna Gurevych

Yevgeniy Puzikov

[thesis@ukp.informatik.tu-darmstadt.de](mailto:thesis@ukp.informatik.tu-darmstadt.de)