

Leon Weber

Education

- 2018–current **PhD studies**, *Humboldt-Universität zu Berlin*, Berlin.
- 2016–2018 **MSc Computer Science**, *Humboldt-Universität zu Berlin*, Berlin.
Grade 1.0 (equivalent to first-class honors)
- 2013–2016 **BSc Computer Science**, *Freie Universität*, Berlin, *Grade 1.4*.
- 2010–2013 **BA Philosophy/English studies**, *University of Bamberg*, Bamberg, *Grade 1.3*.
- 2000–2009 **Abitur (equivalent to A level)**, *Ehrenbürg-Gymnasium*, Forchheim, *Grade 1.8*.

Professional Experience

Research

- 11/2018–
current **Research Assistant**, *Text Mining for Pathway Curation*, Humboldt-Universität zu Berlin.
- 07/2018–
10/2018 **Research Assistant**, *Trend Detection in Biological and Biomedical Patent Documents*, Humboldt-Universität zu Berlin.
- 10/2017–
07/2018 **MSc Thesis**, *NLProlog – Reasoning with Weak Unification for NLP*.
Supervised by Dr. Pasquale Minverini (University College London) and Prof. Ulf Leser (Humboldt Universität zu Berlin)
- 11/2017–
02/2018 **Student Research Assistant**, *Friedrich-Alexander-Universität*, Erlangen-Nürnberg.
Deep Learning for biomedical time-series segmentation. Supervised by Kilin Shi. Found architecture that performed on par with the state-of-the-art method without the need for extensive preprocessing and feature engineering.
- 04/2016–
current **Student Research Assistant**, *Humboldt Universität zu Berlin, Knowledge Management in Bioinformatics Group*, Berlin.
Machine Learning in Natural Language Processing and Genetics. Supervised by Dr. Maryam Habibi and Professor Ulf Leser.
- Implementation and evaluation of a new method to train Deep Learning methods in the small-data regime. Found that the method produces state-of-the-art results on a large number of NER corpora.
 - Deep Learning for biomedical NER. Evaluated and adapted model for NER on a large number of corpora and found that its performance surpassed state-of-the-art models.
 - Cooperation with Dr. Dominik Seelow from Charité on Machine Learning for Variant Effect Prediction. Unpublished
- 02/2017 –
05/2017 **Research Intern**, *Max Dehlbrück Center, Computational Regulatory Genomics Group*, Berlin.
Deep Learning for Regulatory Genomics. Supervised by Dr. Philipp Drewe-Boß. Evaluated various models integrating heterogeneous sources of information for polyA-site prediction which surpassed state-of-the-art models. Unpublished

- 02/2017 – **Contribution to Project**, *Free University*, Berlin.
05/2017 Automated Higher Order Logic Theorem Proving in Philosophy. Supervised by PD Dr. Christoph Benzmüller. Modelled and verified different (semi-)formal arguments in the debate about Gödel's proof of god. Showed applicability of automated theorem proving to Philosophy
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Teaching

- 02/2018 **Tutorial**, *Social Bioinformatics Deep Learning Workshop*, Berlin.
Hands-on session on Deep Learning for Bioinformaticians
02/2014– **Student Teaching Assistant**, *Freie Universität*, Berlin.
03/2014 Object-oriented programming and Java (block course)
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Other

- 03/2015– **Student Employee**, *Carmeq GmbH*, Berlin.
12/2015 Software Engineering in Java and Ruby
04/2014– **Student Employee**, *Freie Universität, Physics Department*, Berlin.
03/2015 Software Engineering and System Administration

Awards

- 2018 **Best Master's thesis (1 of 2)**, *Department of Computer Science, Humboldt-Universität zu Berlin*, NLPProlog – Reasoning with Weak Unification for NLP.

Publications

Christoph Benzmüller, Leon Weber, and Bruno Woltzenlogel Paleo. Computer-assisted analysis of the Anderson–Hájek ontological controversy. *Logica Universalis*, 2017.

Maryam Habibi, Leon Weber, Mariana Neves, David Luis Wiegandt, and Ulf Leser. Deep learning with word embeddings improves biomedical named entity recognition. *Bioinformatics*, 33(14):i37–i48, July 2017.

Mario Sängler, Leon Weber, Madeleine Kittner, and Ulf Leser. Classifying german animal experiment summaries with multi-lingual bert at clef ehealth 2019 task. *CLEF (Working Notes)*, 2019.

Kilin Shi, Sven Schellenberger, Leon Weber, Jan Philipp Wiedemann, Fabian Michler, Tobias Steigleder, Anke Malessa, Fabian Lurz, Christoph Ostgathe, Robert Weigel, et al. Segmentation of radar-recorded heart sound signals using bidirectional lstm networks. In *2019 41st Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*, pages 6677–6680. IEEE, 2019.

Leon Weber, Pasquale Minervini, Jannes Münchmeyer, Ulf Leser, and Tim Rocktäschel. NLPProlog: Reasoning with weak unification for question answering in natural language. In *Proceedings of the 57th Annual Meeting of the Association for Computational Linguistics*, pages 6151–6161, Florence, Italy, July 2019. Association for Computational Linguistics.

Leon Weber, Jannes Münchmeyer, Tim Rocktäschel, Maryam Habibi, and Ulf Leser.
HUNER: improving biomedical NER with pretraining. *Bioinformatics*, 06 2019.
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█ Languages

English fluent

█ Computer skills

Languages Python, Java

Machine Learning Frameworks PyTorch, scikit-learn, Keras, Tensorflow

Other \LaTeX , GNU/Linux, git