

## Education

- 2013 – present **Doctoral Studies: Computational Linguistics**, *Saarland University*.  
*Dissertation Topic:* Automatic Classification of Polarity Shifters in Sentiment Analysis.  
*Principal Investigator:* Prof. Dietrich Klakow  
*Research Group:* Language and Signal Processing (LSV)  
*Expected Graduation:* January 2019
- 2011 – 2013 **Master of Science: Language Science and Technology**, *Saarland University*.  
*Thesis:* “Metaphor Detection through Term Frequency”  
*Grade:* 1.3 (very good, approx. A)
- 2007 – 2011 **Bachelor of Science: Computational Linguistics**, *Saarland University*.  
*Thesis:* “Investigations on State Space Clustering in Reinforcement Learning”  
*Grade:* 1.7 (good, approx. A-)

## Additional Education

- Aug 2015 **European Summer School in Logic, Language and Information (ESLLI)**,  
*Universitat Pompeu Fabra, Barcelona*.
- July 2014 **Lisbon Machine Learning School (LxMLS)**, *Instituto Superior Técnico, Lisbon*.
- 2012 **Visiting Researcher**, *Information Sciences Institute, USC, Los Angeles*.  
*Tasks:* Metaphor Detection in the Governance Domain.
- 2009 – 2010 **Erasmus Student Exchange**, *University of Edinburgh*.

## Experience

### Vocational

- 2016 **Software Engineering Intern**, *Google Switzerland, Zürich*.  
*Tasks:* Sentiment Analysis and Linguistic Processing for Privacy Infrastructure team.
- Doctoral Researcher**, *Language and Signal Processing (LSV)*, Saarland University.
- 2015 – present **Project:** Resource- and data-intensive methods for robust fine-grained sentiment analysis.  
*Tasks:* Data-driven Sentiment Analysis on the phrase level, focus on polarity shifting.
- 2013 – 2015 **Project:** AcListant ([www.aclistant.de](http://www.aclistant.de))  
*Tasks:* Grammar Design, FST-based Labeling Techniques, Annotation Tool Development, Language Modelling and Information Processing in ASR.  
*Awards:* “Landmarks in the Land of Ideas” innovation award by *Germany – Land of Ideas*
- Student research assistant**, *German Research Center for AI (DFKI)*, Saarbrücken.
- 2010 – 2012 **Project:** THESEUS  
*Tasks:* Development in Java, Ontology Processing.
- 2008 – 2009 **Project:** AMIDA ([www.amiproject.org](http://www.amiproject.org))  
*Tasks:* Development in Java, Natural Language Generation.

## Teaching

- Winter 2015 **Introduction to Python Programming**, *Lecture*.  
Co-taught with Stefan Thater
- Summer 2015 **Opinion Holder and Target Extraction for German**, *Software Project*.  
Co-taught with Michael Wiegand
- Winter 2014 **Sentiment Analysis**, *Bachelor Seminar*.  
Co-taught with Michael Wiegand

## Extracurricular

- 2017 – present **2nd Chairmain Alumni Network “Friends of LST”**, *Saarland University*.  
Alumni network of the CL and translation department. Organises networking events for former and current members, supports social events for department, etc.
- 2017 **Department 25th Anniversary Celebration Committee**, *Saarland University*.  
In charge of invitations (find contact information, manage correspondence and RSVPs, etc).
- 2013 – 2015 **CL Bachelorpool**, *Saarland University*.  
Outreach events to inform the public about computational linguistics.  
**Girl’s Day**: Introducing girls aged 10–16 to STEM subjects.  
**UniCamp**: 5-day event for girls aged 12–15 comprised of half-day STEM workshops.  
**Open House**: Presentations and demonstrations for the general public.
- 2008 – 2012 **CL Student Council (Fachschaftratsrat)**, *Saarland University*.  
Introductory events and mentoring for new students, organization of departmental social activities, student-lecturer mediation and acquisitions for the student body.

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## Awards

- 2012 **UdS-Mobil/PROMOS research stipend**, *German Academic Exchange Service (DAAD)*.
- 2009 **ERASMUS exchange stipend**, *European Union*.

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## Fields of interest

- Sentiment Analysis
- Applied Machine Learning
- Sign Language Linguistics

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## Computer skills

- Excellent **Python, Java**
- Good Bash, PHP, MySQL
- Markup* LaTeX, HTML, XML

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## Languages

- Native **German**
- Excellent (C2) **English**
- Basic German Sign Language, Latin

## Publications

**M. Schulder**, M. Wiegand, and J. Ruppenhofer, “Automatically Creating a Lexicon of Verbal Polarity Shifters: Mono- and Cross-lingual Methods for German,” in *Proceedings of the International Conference on Computational Linguistics (COLING)*, International Committee on Computational Linguistics, 2018.

**M. Schulder**, M. Wiegand, J. Ruppenhofer, and S. Köser, “Introducing a Lexicon of Verbal Polarity Shifters for English,” in *Proceedings of the Language Resources and Evaluation Conference (LREC)*, (Miyazaki, Japan), pp. 1393–1397, 2018.

**M. Schulder**, M. Wiegand, J. Ruppenhofer, and B. Roth, “Towards Bootstraping a Polarity Shifter Lexicon using Linguistic Features,” in *Proceedings of the International Joint Conference on Natural Language Processing (IJCNLP)*, (Taipei, Taiwan), pp. 624–633, 2017.

H. Helmke, Y. Oualil, and **M. Schulder**, “Quantifying the Benefits of Speech Recognition for an Air Traffic Management Application,” in *Proceedings of the Conference on Electronic Speech Signal Processing (ESSV)*, (Saarbrücken, Germany), pp. 114–121, 2017.

M. Wiegand, **M. Schulder**, and J. Ruppenhofer, “Separating Actor-View from Speaker-View Opinion Expressions using Linguistic Features,” in *Proceedings of the Human Language Technology Conference of the North American Chapter of the ACL (HLT/NAACL)*, (San Diego, CA, USA), pp. 778–788, 2016.

M. Wiegand, **M. Schulder**, and J. Ruppenhofer, “Opinion Holder and Target Extraction for Verb-based Opinion Predicates – The Problem is Not Solved,” in *Proceedings of the Workshop on Computational Approaches to Subjectivity and Sentiment Analysis (WASSA@EMNLP)*, (Lisboa, Portugal), pp. 148–155, 2015.

Y. Oualil, **M. Schulder**, H. Helmke, A. Schmidt, and D. Klakow, “Real-Time Integration of Dynamic Context Information for Improving Automatic Speech Recognition,” in *Proceedings of the Conference of the International Speech Communication Association (INTERSPEECH)*, (Dresden, Germany), 2015.

H. Helmke, Y. Oualil, J. Rataj, T. Mühlhausen, O. Ohneiser, H. Ehr, M. Kleinert, and **M. Schulder**, “Assistant-Based Speech Recognition for ATM Applications,” in *Proceedings of the USA/Europe Air Traffic Management Research and Development Seminar (ATM)*, (Lisbon, Portugal), 2015.

A. Schmidt, Y. Oualil, O. Ohneiser, M. Kleinert, **M. Schulder**, A. Khan, H. Helmke, and D. Klakow, “Context-Based Recognition Network Adaptation for Improving On-Line ASR in Air Traffic Control,” in *Proceedings of the Spoken Language Technology Workshop (SLT@IEEE)*, (South Lake Tahoe, CA, USA), pp. 13–18, IEEE, 2014.

**M. Schulder** and E. Hovy, “Metaphor Detection through Term Frequency,” in *Proceedings of the Workshop in Natural Language Processing (Meta4NLP@ACL)*, (Baltimore, MD, USA), pp. 18–26, Association for Computational Linguistics, 2014.

O. Ohneiser, H. Helmke, H. Ehr, H. Gürlük, M. Hössl, M. Kleinert, T. Mühlhausen, M. Uebbing-Rumke, Y. Oualil, **M. Schulder**, A. Schmidt, A. Khan, and D. Klakow, "Air Traffic Controller Support by Speech Recognition," in *Proceedings of the International Conference on Applied Human Factors and Ergonomics (AHFE)*, (Krakow, Poland), pp. 492–503, 2014.

R. Littauer, A. Scheidel, **M. Schulder**, and S. Ciddi, "Crowd Sourcing the Classroom: Interactive Applications in Higher Learning," in *Proceedings of the International Conference of Education, Research and Innovation (ICERI)*, (Madrid, Spain), pp. 1473–1481, 2012.