Curriculum Vitae

Prof. Dr. Günter Neumann

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Address

Name:	Prof. Dr. Günter Neumann
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Research Interests

Information Extraction, Question Answering. Machine Learning

Education

- Diploma degree in Computer Science with a grade at 1.0 (A) from the Saarland University. Thesis title: "POPEL-HOW: Parallel and incremental generation of natural language sentences from conceptual representations". Supervisor: Prof. Dr. W. Wahlster, 1989.

- Doctoral degree in computer science (magna cum laude) from the Saarland University. Thesis title: "A Uniform Computational Model for Natural Parsing and Generation". Joint supervisors: Prof. Dr. H. Uszkoreit and Prof. Dr. W. Wahlster, 1994.

- DFKI research fellow; the decision procedure is similar to that for the appointment of a professorship C3/W2, 1999.

- Habilitation in "Computational Linguistics" with the topic "Domain-adaptive Core Technology for Natural Language Analysis and Generation" at the Saarland University, Germany. Committee: Prof. Dr. Pinkal, Prof. Dr. Uszkoreit, Prof. Dr. Wahlster (all: Univ. of the Saarland), Prof. Dr. Nerbonne (Univ. of Groningen), 2004.

- Apl. Professor at the University of Saarland, August, 2014.

Professional Experience

September 2020 - August 2024 I am involved in the BMBF funded project XAINES - Explaining AI with Narratives.

October 2020 - October 2023 I am the group leader of the Neural Question Answering group of the BMBF funded project Cora4NLP - Co(n)textual Reasoning and Adaptation for Natural Language Processing.

May 2018 - April 2022 I am site project leader of the project "PRECISE4Q" which is funded by the EC.

2019 I was project leader of a industrial funded projects in the area of recognizing text duplicates in the pharmaceutical domain.

2017 - 2018 I was project leader of two industrial funded projects in the area of semantic parsing of abstract meaning representations and generation of NL question from car manuals.

October 2017 - October 2020 I was the group leader of the Neural Question Answering group of the BMBF funded project DEEPLEE - Deep Learning for Language Technology End-to-End Applications

January 2017 - December 2020 I am site project leader of the project "iREAD" which is funded by the EC.

August 2015 - October 2015 I was project leader of a industrial funded project in the area of Open Question Answering.

Since April 2015 I am involved in two large projects about Big Data and language Technology funded by BMWi.

January 2012 − December 2014 I am site project leader of the project "EXCITEMENT: EXploring Customer Interactions through Textual EntailMENT" which is funded by the EC as part of FP7–ICT. We are responsible for the open source infra-structure and the cooperation between the research and industrial partners (including providing the implementation platform).

March 2011 − September 2011 I was project leader of "DILIA–IE" in the area of digital libraries funded by researchGate GmbH in the area of unsupervised and domain independent key phrase extraction from a large scale corpus of scientific abstracts (more than 40 million abstracts from natural science and medicine). Our methods are integrated into the social platform of researchGate GmbH.

January 2010 − December 2012 I was involved in the project "THESEUS_ORDO_TechWatch - Ontologies and Language Technologies for Technology Observation in Theseus-ORDO" where I was working as a project leader in the area of text mining methods for trend analysis and monitoring.

March 2009 − December 2009 I was involved in the project "THESEUS_CTC_IUI - Theseus Core Technology Cluster" where I worked as a conceptual lead for the research and development of novel semantic search technology on basis of the ODP (Ontology–based Dialogue Platform) framework.

March 2009 − December 2009 I was involved in an industrial project funded by the Deutsche Telekom. The topic was on the improvement of semantic search on basis of computational morphology.

June 2008 − December 2010 I was project site leader of the DiLiA project that was funded by the Investitionsbank Berlin. The main goal was the development of hybrid approaches to information extraction for digital scientific libraries. Our partners were the IUI–Lab of DFKI (headed by Prof. Dr. Wolfgang Wahlster) and the Max Planck Digital Library (MPDL).

June 2008 − September 2009 I was the project leader of the ConQA project funded by Saarland. The main goal was the research and development in domain-specific ontology–based question

answering for a restricted but scalable knowledge area by exploiting web-based ontology population.

April 2007 – November 2007 I was the project leader of the DFKI project IDEX funded by the Investitionsbank Berlin. The main goal was the research and development of novel methods for interactive dynamic information extraction in the domain of risk analysis.

Oct. 2006 – September 2009 I was the site project leader of the QALL-ME project, funded by EC. The main goal of the project was the development of question answering learning technologies in a multi-lingual and multi-modal environment. DFKI's work package responsibilities were on the design and development of a Service–Oriented Architecture (SOA) and the integration of the QALL-ME system.

Jan. 2006 – December 2008 I was co–project leader of HyLaP (together with Prof. Dr. Hans Uszkoreit), a BMBF funded project. The main goal of the project was the research and development of *Hybrid Language Processing Technology for a Personal Associative Information Access and Management Application*. My main responsibilities were in the area of web-based question answering with a scientific focus on textual inference and Machine Learning for QA. Project reviewers: Dr. O. Stock (IRST) and Prof. Dr. D. Scott (University of Brighton).

October 2004 – April 2007 I was involved in the project SmartWeb, a large BMBF–funded research project about *Mobile Broadband Access to the Semantic Web*. I was responsible for the development of an open-domain question answering system and its integration with mobile speech–based input devices and Web–based search engines.

January 2003 – December 2005 I was the co–project leader of Quetal (together with Dr. Anette Frank), a BMBF funded project. The main goal was the development of a hybrid, web-based and multilingual question-answering system. The focus of my research was on open-domain cross-language question-answering, data-driven answer extraction, and QA-relevant semantic web services. Project reviewers: Dr. O. Stock (IRST) and Prof. Dr. D. Scott (University of Brighton).

January 2003 – August 2003 I was the co–project leader (together with Bernd Kiefer) of the PAW (parsing of word graphs) project funded by DaimlerChrysler. The main task was to implement a robust and flexible parser for Daimler's speech recognizers.

June 2001 – December 2001 I was involved in the EU-funded project "ONTOWEB: Ontology-based information exchange for knowledge management and electronic commerce" as part of DFKI's participation.

January 2000 – December 2002 I was the co–project leader of the BMBF-funded project WHITEBOARD (together with Dr. Anette Frank). Research focus: shallow robust text understanding, Machine learning for information extraction, text Mining, XML-based text IO specifications. The project was annual reviewed by DFKI's international scientific advisory board. Project's main reviewer: Prof. Dr. Jaime Carbonell, CMU, USA.

September 1999 – September 2000 I was a technical consultant in the project TIM funded by Deutsche Telekom in the area of intelligent information extraction.

May 1999 – July 1999 I was the project leader of the project TMB funded by Dresdner Bank in the area of text mining and intelligent information extraction.

June 1998 – June 2001 I was the site project leader of the project GETESS (*German Text Exploitation and Search System*). GETESS was a joint project between the universities Karlsruhe and Rostock, DFKI and the SME Gecko mbH. DFKI's responsibilities are in the area of multi-lingual

abstract generation, user query analysis and text summarization.

January 1997 − March 2000 I was the project leader of the project PARADIME (*Parameterizable Domain-adaptive Information and Message Extraction*). PARADIME's responsibilities are in the area of domain-adaptive information extraction, shallow text processing, and Machine Learning. Project's main reviewer: Prof. Dr. Jaime Carbonell, CMU, USA.

October 1996 − April 1997 I was responsible for the technical coordination of the development of an information extraction prototype for a commercial costumer (ESG Munich).

May 1992 − December 1996 I was a full-time researcher at the Language Technology Laboratory of DFKI. I was a member of the projects DISCO (Dialogue System for Cooperating Agents), PARADICE (Parameterizable NL Discourse Core Engine) and COSMA (Cooperative Schedule Management Agents). I was responsible for the development and implementation of an object-oriented system architecture, uniform algorithms for parsing and generation, development of Machine Learning techniques for intelligent data analysis, and the development of intelligent methods for information extraction.

January 1991 − April 1992 I was the project leader of the DFG (German Science Foundation) funded project BILD (Bidirectional Linguistic Deduction) of the SFB 314 (Artificial Intelligence and Knowledge-based Systems) headed by Prof. Dr. H. Uszkoreit. The main research focus was in the area of grammar reversibility, chart-based uniform algorithms for parsing and generation, and computational models for self-monitoring and revision. During the project phase I worked together with Dr. Gertjan van Noord, now University of Groningen, the Netherlands.

March 1989 − April 1992 I was a full time researcher at the Department of Computational Linguistics of the Saarland University headed by Prof. Dr. H. Uszkoreit.

October 1985 − February 1989 I was a research assistant in the project Xtra (Expert Translator) of the SFB 314 (Artificial Intelligence and Knowledge-based Systems) headed by Prof. Dr. W. Wahlster. I was responsible for the implementation of the German morphological package Morphix and SB-PATR, a re-implementation and extension of the PATR-II constraint-based grammar development tool. During my diploma thesis I developed a parallel and incremental natural language generation system following a distributed AI approach. All these implementations have been used in the daily research work of the AI–lab's projects.

Research Visits

March 2007 research visit at the Ecole Nationale de l'Lindustrie Minérale (Rabat, Morocco) working together with Prof. Dr. Abdelhadi Soudi in the area of multilingual morphology.

July 2002 research visit at M.I.T. AI Laboratory working together with Dr. J. Mallery in the area of uniform parsing and generation of constraint–based natural language grammars.

June − July 2001 guest researcher at the Language Technologies Institute (LTI) of the School of Computer Science at Carnegie Mellon University, Pittsburgh, PA. Working area: open–domain question answering working together with Prof. Dr. Eric Nyberg and Prof. Dr. Jaime Carbonell. The focus of my visit was on exploring inter–lingua-based representations in order to support answer validation, and on the integration of shallow and deep text analysis.

July 1996, August 1997 and November 1998 Guest researcher at the Center for the Study of Linguistics and Information (CSLI), Stanford University working together with Dr. Dan Flickinger and Dr. Ann Copstake in the area of efficient parsing and generation of high-level NL grammars (viz. HPSG). The main focus was the adaptation of a speed-up learning algorithm on basis

of Explanation–based Learning (EBL) which I invented at DFKI for the efficient processing of HPSG-based grammars developed at CSLI.

Project Acquisition

I was actively involved in the acquisition of the following projects:

Research

- BiLD (Bidirectional Linguistic Deduction), SFB 314; DFG (German Science Foundation), 1991.

- Twenty-One (Disclosure and dissemination of documents on sustainable development); European Commission (EC), 1996.

- Mulinex (Multilingual Indexing, Editing and Navigation Extensions for the World Wide Web); European Commission (EC), 1997.

- Paradime (Parameterizable Domain-adaptive Information and Message Extraction); BMBF, 1997.

- Getess (German Text Exploitation and Search System); BMBF, 1998.

- Whiteboard (Multilevel Annotation for Dynamic Free Text Processing); BMBF, 2000.

- Ontoweb (Ontology-based information exchange for knowledge management and electronic commerce); EC, 2001.

- Quetal (A Multilingual Hybrid Question-Answering System for Exploring Large Collections of Annotated Free Text Documents); BMBF, 2003.

- HyLaP (Hybrid Language Processing Technology for a personal associative information access and management application); BMBF, 2006.

- QALL-ME (Question Answering Learning Technologies in a multilingual and multimodal Environment); European Commission (EC). I am the principal investigator from DFKI side, 2006.

- IDEX (Interactive Dynamic Information Extraction). I am the principal investigator; Investitionsbank Berlin, 2007.

- ConQA (Controlled Question Answering). I am the co–principal investigator together with Hans Uszkoreit; Saarland, 2008.

- DiLiA (Digital Library Assistant). Co–principal investigator together with Dr. Norbert Reithinger (IUI–lab, DFKI); Investitionsbank Berlin, 2008.

- EXCITEMENT (EXploring Customer Interactions through Textual EntailMENT); European Commission (EC), I am the principal investigator from DFKI side, 2011.

- iREAD (Personalised Reading Apps for Primary School Children); European Commission (EC), I am the principal investigator from DFKI side, 2017.

- DEEPLEE (Tiefes Lernen für End-to-End-Anwendungen in der Sprachtechnologie); BMBF

- PRECISE4Q (Personalised Medicine by Predictive Modeling in Stroke for better Quality of Life); European Commission (EC), I am the principal investigator from DFKI side, 2018.

- Core4NLP (Co(n)textual Reasoning and Adaptation for Natural Language Processing); BMBF

- XAINES (Explaining AI with Narratives); BMBF

Industry

- ESG-SMES (intelligent message extraction) funded by ESG Munich, 1996.

- TMB (Text Mining in the Banking area) funded by Dresdner Bank, 1999.

- TIM (Telecommunication and Information Management), 1999.

- PAW (Parsing of word graphs) funded by DaimlerChrysler, 2003.

- GelbeSeiten (Semantic search) funded by the Deutsche Telekom, 2009.

- EVE (Dialogues with the virtual character Eve of the YelloStrom Web page) funded by Yellow Strom, 2010.

- "Improving the search functionality of OMQ diagnostic" funded by OMQ GmbH, 2010.

- "Automatic term extraction" funded by OMQ GmbH, 2011.

- "Unsupervised key phrase extraction from scientific publications" funded by ResearchGate GmbH, 2011.

- "Integration Question Answering", funded by a large automobile brand, August 2015.

- "Nuance Localisation", funded by Nuance Communications, 2017.

- "Nuance Question Answering", funded by Nuance Communications, 2018.

- "Content Structuring and Deduplication (CSD)", funded by Amplexor, 2019.

Teaching Experience

- I am teaching a regular seminar on *Advanced in Question Answering* (2SWS)

- I was a guest lecture at the *Institute of Applied Informatics* of the Alpen-Adria-Universität Klagenfurt Alpen-Adria University of Klagenfurt (2005 - 2020), Austria.

- Sommer 2019: seminar *Neural Question Answering* (2 SWS)

- Sommer 2018: seminar *Current Topics in Information Extraction and Question Answering* (2 SWS)

- Winter 2016: seminar *Question Answering in Applications* together with Dr. Georg Heigold, (2 SWS)

- Summer 2016: seminar *Machine Learning Based Question Answering* together with Dr. Georg Heigold, (2 SWS)

- Winter 2015: seminar *Open Information Extraction* (2 SWS)

- Summer 2008, 2015, 2016: seminar *Computational Linguistics in economy and society* (2 SWS).

- Summer 2012: lecture *grammar formalisms* together with Dr. Vera Demberg, Prof. Hans Uszkoreit, and Dr. Yi Zhang (4SWS).

- Winter 2012: seminar *Current topics in Recognizing textual entailment* (2 SWS)

- Winter 2010, Winter 2011: lecture *Information Extraction* (2SWS)

- Winter 2010, Summer 2011, Summer 2012: software project *Named Entity Processing.*

- Winter 2009: seminar *Wikipedia Mining* (2 SWS).

- Winter 2005 – Winter 2014: selected lectures in the Master course on *Language Technology I*.

- Summer 2008: seminar *Information Extraction in the Biomedical Domain* (2 SWS).

- Summer 2007: software project "Data-driven web–based Question Answering".

- Winter 2006: seminar *Current Trends in Information Extraction* (2 SWS).

- Summer 2005: seminar *Data-Oriented Parsing and Generation* (2 SWS).

- August 2004: tutorial *Intelligent Information Extraction* given at the 16th European Summer School in Logic, Language and Information, ESSLLI 2004.

- Winter 2003: software project *Cross–language question–answering* (2 SWS).

- Winter 2001: lecture *Information Extraction and Question-Answering Systems: Foundations and methods* (4 SWS).

- Winter 2001: software course *Information extraction and Text Mining* (2 SWS).

- Summer 2001: seminar *Machine Learning for Information Extraction and Text Mining* (3 SWS).

- Summer 1999: software course *Shallow parsing with finite state grammars* (2 SWS).

- Winter 1997: seminar *Multi-lingual information retrieval and extraction* (2 SWS).

- Winter 1995: seminar *Parsing and generation with constraint-based grammars* (2 SWS).

- Summer 1992: programming course *Introduction to functional programming* (4 SWS).

- Summer 1991: programming course *Introduction to functional programming* (4 SWS).

- Summer 1990: programming course *Symbolic and object-oriented programming: Common Lisp and CLOS* (4 SWS).

- Winter 1989: lecture course *Introduction to natural language systems* (4 SWS).

- Summer 1989: programming course *Introduction to functional programming* (4 SWS).

The courses and seminars have been taught at the departments of computer science and computational linguistics of the Saarland University, if not otherwise specified. For most of them online material is available from my DFKI home page.

Supervised Bachelor and Master Theses

1. Ludwig Dickmann: Flache Analyseverfahren zur Identifikation und Extraktion von Personennamen aus elektronischen Texten, Diploma Thesis, Computational Linguistics, Saarland University, 1998.

2. Christian Braun: Flaches und robustes Parsen deutscher Satzgefüge, Diploma Thesis, Computational Linguistics, Saarland University, 1999.

3. Volker Morbach: A Hybrid Machine Learning Approach for Information Extraction, Diploma Thesis, Computer Science, Saarland University, 2002.

4. Holger Neis: Cross-linguale textuelle Frage-Antwort-Verarbeitung: Algorithmische Methoden, Diploma Thesis, Computational Linguistics, Saarland University, 2003.

5. Hubert Schlarb: Cross-linguale textuelle Frage-Antwort-Verarbeitung: Linguistische Methoden, Diploma Thesis, Computational Linguistics, Saarland University, 2003.

6. Rob Basten: Answering Open-domain Temporally Restricted Questions in a Multilingual Context, Master Thesis, Computer Science, University of Twente together with Prof. Franziska de Jong, 2005.

7. Alejandro Figueroa: Genetic Algorithms for syntactic and data-driven Question Answering on the Web, Master Thesis, Computational Linguistics, Saarland University, 2006.

8. Christian Spurk: Ein minimal überwachtes Verfahren zur Erkennung generischer Eigennamen in freien Texten, Diploma Thesis, Computational Linguistics, Saarland University, 2006.

9. Rui Wang: Textual Entailment Recognition – A Data–Driven Approach, Master Thesis, Computational Linguistics, Saarland University, 2007.

10. Alexander Volokh: Datenbasiertes Dependenzparsing, Bachelor Thesis, Computational Linguistics, Saarland University, 2008.

11. Andrea Horbach: Relation Extraction from Topic Related Web Texts, Diploma Thesis, Computational Linguistics, Saarland University, 2009.

12. Alexander Volokh: Data–Driven Transition–Based Dependency Parsing with Maximum Entropy Models, Master Thesis Computational Linguistics, Saarland University, 2009.

13. Carolin Shiadeh: Named Entity Recognition from Arabic Text, Bachelor Thesis, Computer Science, Saarland Universitym, 2010.

14. Jacqueline Pientok: Social Media Networking: eine linguistische Analyse deutsch- und englischsprachiger Tweets für die Anpassung von Sprachtechnologie-Komponenten auf soziale Medien, Master Thesis, Germanistisches Institut, Universität Potsdam (together with Prof. Dr. Gerda Haßler), 2012.

15. Peter Stahl: The Concept of an Event Finder – The Automatic Identification and Extraction of Event Information from the World Wide Web, Master Thesis, Computational Linguistics, Saarland University, May, 2013.

16. Christian Tassilo Barth: Towards a Unified Understanding of Fault Diagnosis in Technical Documentation and Community Question Answering, Master Thesis, Computational Linguistics, Saarland University, Sept. 2013.

17. Amir H. Moin: Assisting bug Triage in Large Open Source Software Projects Using Approximate String Matching, Master Thesis, Computer Science, Saarland University, Sept. 2013.

18. Fabian Gallenkamp: A parsing framework for lexicalised tree-insertion grammar based applications, Bachelor Thesis, Computer Science, Saarland University, April 2014.

19. Noushin Fadaei: A Domain-Specific Approach to Recognizing Entailment Relations between Pairs of Questions over WikiAnswers, Master Thesis, Computational Linguistics, Saarland University, Sept. 2014.

20. Bibyna Feraena: Query Expansion for Medical Information Retrieval, Master Thesis, Charles University in Prague and Saarland University, Sept. 2015.

21. Omid Moradiannasab: Automatic Context-Relevant Off–Activity Talk Suggestion for Dialogue Contribution, Master Thesis, University of Groningen and Saarland University, Oct. 2015.

22. Madhumita: Recognizing Textual Entailment, Master Thesis, Computational Linguistics, Saarland University, March, 2016.

23. Hang Zhang: Diversived Social Media Retrieval for News Stories, Master Thesis, Computational Linguistics, Saarland University, May, 2016.

24. Tyler Klement: Automatic Corpus Generation for Neural Question Answering, Master Thesis, Computational Linguistics, Saarland University, August, 2016.

25. Yi-Ling Chung: Automatic Generation of Named Entity Taggers Leveraging Parallel Corpora, Master Thesis, University of San Sebastian and Saarland University, Dec. 2017.

26. Marina Haid: Evaluating a Character-based Approach to Word Embeddings and Word Segmentation for German, Bachelor Thesis, Saarland University, Feb., 2018.

27. Yauhen Klimovich: Neural Networks for reading comprehension applied to non-factoid question answering, Master Thesis, University of Trento and Saarland University, March 2018.

28. Daniel Kondratyuk: Multilingual Learning using Syntactic Multi-Task Training, Master Thesis, University of Prague and Saarland University, June 2019.

29. Dominik Stammbach: Automated Fact Checking and Participation in the SemEval-2019 Task 8 and FEVER 2.0, Master Thesis, Saarland University, September 2019.

30. Aydan Rende: Combining Knowledge Graph Construction and Open Relation Extraction, Master Thesis, Saarland University, September 2019.

31. Eleni Metheniti: Linguistically-inspired neural morphological inflection, Master Thesis, Saarland University, November 2019.

32. Rupali Sinha: mproved Transfer Learning Methodologies for Clinical Prediction Modelling, Master Thesis, Saarland University, December 2019.

33. Pomi Park: Visualization of Neural Networks for Question Answering Systems, Master Thesis, Saarland University, February 2020.

34. Anna Vechkaeva: Latent Feature Generation with Adversarial Learning for Aphasia Classifcation, Master Thesis, Saarland University, April 2020.

35. Katherine Ann Dunfield: Latent Feature Generation with Adversarial Learning for Aphasia Classification, Master Thesis, Saarland University, April 2020.

36. Siyana Pavlova: NLP Methods to Automate Language Learning through Extensive Reading, Master Thesis, Saarland University, October 2020.

37. Christine Schäfer: Evaluation of Transfer Learning Approaches for Cross-Lingual Question Answering, Master Thesis, Saarland University, October 2020.

38. Kathryn Chapman: Exploiting Label Attention and Clustering for Multi-label Codes Classification, Master Thesis, Saarland University, April 2021.

39. Ioannis Dikeoulias: Low-rank Tensor Completion for Temporal Knowledge Graphs, Master Thesis, Saarland University, February 2022.

Member of PhD Thesis Committees

1. David Tomś Diaź: *Sistemas de clasificación de preguntas basados en corpus para la búsqueda de respuestas*, Computer Science, Universidad de Alicante, 2009. (External reviewer)

2. Alejandro Figueroa: *Finding Answers to Definition Questions on the Web*, Computational Linguistics, Saarland University, 2010. (1st reviewer)

3. Alexander Volokh: *Performance-Oriented Dependency Parsing*, Computational Linguistics, Saarland University, 2013. (1st reviewer)

4. Fang Xu: *Enhancing Knowledge Acquisition Systems with User Generated and Crowdsourced resources*, Spoken Language Systems, Saarland University, 2013. (2nd reviewer)

5. Sven Schmeier: *Exploratory Search on Mobile Devices*, Computational Linguistics, Saarland University, 2013. (1st reviewer)

6. Kathrin Eichler: *Generating and Applying Textual Entailment Graphs for Relation Extraction and Email Categorization*, Computational Linguistics, Saarland University, 2018. (main supervisor, 2nd reviewer)

Awards

2014 NLG Idol Papers award for my Coling 1992 paper about "Self-Monitoring with Reversible Grammars" (co-authored with Gertjan van Noord) presented by Michael White at the 8th International Natural Language Generation Conference (INLG-14), Philadelphia, PA, USA, June

2012 I received the best paper award together with my student Amir Moin for our work on *Assisting bug Triage in Large Open Source Projects Using Approximate String Matching.* The Seventh International Conference on Software Engineering Advances (ICSEA12), Nov. 2012.

2011 I received the Best Reviewer Award from the "Conference on Empirical Methods in Natural Language Processing (EMNLP)".

1999 Awarded DFKI Research Fellow, May, 1999.

1989 Traveling award from the US Scholarship Program for active participation at IJCAI 1989, Detroit, USA.

Membership in Academic Boards

- I was the scientific supervisor of Markus Löckelt (Computer Science department of Saarland University) and Daniel Sonntag (Computer Science department of Saarland University).

- I was member of the **2005 PhD board of examiners** of Dr. Tianfang Yao (Computer Science department of Saarland University).

- I was member of the **2009 PhD board of examiners** of David Tomas (Computer Science department of University of Alicante, Spain).

- I was a member of the **2009 Habilitation board** of the Faculty of Philosophy of the Saarland University for the examination of Dr. Sabine Schulte im Walde.

Membership in Editorial Boards

I was the section editor-in-chief for the area "Artificial Intelligence" of "Information - Open Access Information Science Journal"

I was a member of the editorial board of the "International Journal On Advances in Intelligent Systems"

Membership in Program Committees

Member of the standing reviewing committee of the Transactions of the Association for Computational Linguistics (TACL)

AAAI — 2020, 2021, 2022

Annual Meeting of the Association for Computational Linguistics (North American Chapter, American Chapter, European Chapter and HLT) — 1997, 1998, 1999, 2003, 2007 – 2022

Biologically Inspired Cognitive Architectures (BIAC) – 2011, 2012

Conference Empirical Methods in Natural Language Processing (EMNLP) — 2001, 2002, 2009, 2011, 2014, 2016, 2018 – 2022

ECAI Workshop on Semantic Authoring, Annotation & Knowledge Markup (SAAKM) — 2002

TextGraphs - Graph-based Methods for Natural Language Processing — 2013, 2014, 2016

European Conference on Artificial Intelligence (ECAI) — 1999, 2006, 2009, 2016

Conference on Multilingual and Multimodal Information Access Evaluation (Question Answering lab CLEF–QA) — 2007, 2008, 2010

Extended Semantic Web Conference (ESWC) — 2012

Joint Conference on Lexical and Computational Semantics (*SEM) — 2012, 2014, 2018

IJCAI workshop on Ontology Learning, OL-2001

International and Interdisciplinary Conference on Adaptive Knowledge Representation and Reasoning (AKRR) — 2005

International Conference on Computational Linguistics (Coling) — 2000, 2004, 2008 – 2022

International Conference on Language Resources and Evaluation (LREC) — 2002 – 2020

International Conference on Digital Society (ICDS) — 2013

International Conference on Management of Emergent Digital EcoSystems (MEDES) — 2009, 2010, 2011

International Conference on Applications of Natural Language to Information Systems (NLDB) — 2007 – 2015

International Conferences on Pervasive Patterns and Applications (PATTERNS) — 2010, 2011

International Workshop on Knowledge Markup and Semantic Annotation — 2004

Tagung der Gesellschaft für Sprachtechnologie & Computerlinguistik (GSCL) — 2013

Workshop on Systems and Frameworks for Computational Morphology — 2009, 2011, 2013, 2015

Workshop on Computational Approaches to Subjectivity and Sentiment Analysis (WASSA) — 2010 – 2018

Workshop on "The People's Web meets NLP: Collaboratively Constructed Semantic Resources and their Applications to NLP" — 2009, 2010, 2012

Workshop on "Logic, Learning, and Language" — 2000, 2001

Workshop on Question Answering over Linked Data — 2011

Workshop on Interacting with Linked Data — 2012

Workshop Information Retrieval of the special group in IR of the German Informatics Society — 2008, 2010

Organizations of Workshops, Symposium and other Events

November 2013 Organization of the "Joint Symposium on Semantic Processing", Trento, Italian, together with Ido Dagan (Bar-Ilan University, Israel), Elisabetta Jezek (University of Pavia, Italy), Alberto Lavelli (FBK, Italy), Bernardo Magnini (FBK, Italy), Sebastian Pado (University of Stuttgart, Germany) and Octavian Popescu (FBK, Italy).

September 2008 Organization of the workshop "ONTOLOGY-BASED INFORMATION EXTRACTION SYSTEMS (OBIES 2008)" as part of the 31th German Conference on Artificial Intelligence (KI'2008), together with Benjamin Adrian (DFKI; chair), Alexander Troussov (IBM) and Birslav Popov (Ontotext).

June 2008 Organization of the symposium on "Human Language Technologies in Africa: Status and Prospects" funded by the Alexander von Humboldt foundation together with Prof. Abdelhadi Soudi (Rabat, Morocco; chair), Prof. Dafydd Gibbon (Bielefeld, Germany) and Prof. Justus Roux (Stellenbosch, South Africa).

August 1996 Organization of the workshop "corpus-oriented semantic analysis" during the "12th European Conference on Artificial Intelligence, ECAI-96", Budapest, 1996, together with Daniel Kayser, Francois Lvy, Laboratoire d'Informatique de Paris-Nord and Joachim Quantz (workshop chair), technical university Berlin.

Reviewing of Scientific Journal and Book Chapter Publications

- ACM Transactions on Intelligent Systems and Technology (2013)

- Expert Systems With Applications (2015, 2016)

- Transactions of the Association for Computational Linguistics (TACL - I am a member of the steering review committee)

- Journal of Language Modelling (2018)

- Journal Data & Knowledge Engineering (2020)

- Semantic Web Journal (2011, 2012, 2016)

- Journal of Intelligent Information Systems (2008)

- Journal On Advances in Intelligent Systems (2012)

- Journal of Language Resources and Evaluation (2006, 2011)

- Journal of Data and Knowledge Engineering (2006)

- Journal of Automata, Languages and Combinatorics (2005)

- Journal of Speech Communication (2005)

- Journal of Artificial Intelligence (2004)

- Journal of Applied Artificial Intelligence (2004)

- Journal of Artificial Intelligence in Medicine (2003)

- Journal of Computational Linguistics (1995, 2000, 2002)

- Journal of Natural Language Engineering (2002, 2003, 2016)

- Journal "Künstliche Intelligenz" (2008)

- Iranian Journal of Science and Technology (2003)

- Two chapters in the book "Swarm Intelligence and Data Mining" (eds. A. Abraham, C. Grosan and V. Ramos), 2005.

- A chapter in the book "Robustness in language and speech technology" (eds. Junqua, van Noord), 1998.

Reviewing of Research Proposals

2021, 2022 Project proposal reviewer for the German Science Foundation (DFG).

August 2015 Project proposal reviewer for the Chilean National Science and Technology Commission (area: Machine Learning).

July 2007 Project proposal reviewer for the Czech Science Foundation (area: Data–Mining).

October 2006 Project proposal reviewer for the Council of Physical Sciences of the Netherlands Organization for Scientific Research (NWO) (area: Unsupervised Data–Oriented Parsing).

May 2006 Project proposal reviewer for the "Schweizerische Nationalfonds zur Förderung der Wissenschaftlichen Forschung" (FNSNF) (area: Text Mining).

January 2006 Invited participation to the workshop about "Interactive Systems and New Interface Technology" organized by the Interfaces Unit of the Directorate General Information Information Society and Media, EC, Luxembourg, 30/31.1.2006. The main workshop's task was to review state-of-the-art and to define the key research priorities for FP7, in the areas of natural, intuitive and easy-to-use interfaces. I presented ideas about "implicit personal information access" and was member of a small working group brainstorming about "Implicit Interfaces" (together with Dr. Philipp Koehn, Prof. Chabane Djeraba, Prof. Maurizio Omologi, Prof. Hans Uszkoreit, Prof. Alex Waibel, Prof. Yorik Wilks).

2006 − 2008 Member of the scientific advisory board for the BMBF–funded project "Ontoverse - the pilot project for cooperative network-supported knowledge management in the field of Life Sciences".

May 2004 Active participation in the construction of the Roadmap for Language and Speech Technology Resources, created under the auspices of ELSNET, ENABLER and ELRA. Area of expertise: question answering.

April 2003 Project proposal reviewer for the Council of Physical Sciences of the Netherlands Organization for Scientific Research (NWO) (area: Natural Language Generation).

January 2003 Reviewer for the Alexander von Humboldt Foundation (reviewing a proposal for a Georg Forster–Research grant).

November 2002 Project proposal reviewer for the Engineering and Physical Sciences Research Council, United Kingdom in the area of Natural Language Generation (area: Induction of Natural Language grammars).

January 2001 Reviewer of the EU–funded IST project LLAVES (area: information extraction, text summarization.

Other Academic and Industrial Experience

2020 My H-index is 31 (source http://scholar.google.com/)

2011 I am a member of the Research/Industry Chairs of the Third International Conferences on Pervasive Patterns and Applications (PATTERNS 2011).

19th June – 19th July, 2010 I was the scientific host of Prof. Dr. Adnan Yahya (CS department, University of Birzeit, Palestine) who obtained a research grant from the **Alexander von Humboldt-Foundation**.

July – Dec. 2003, July – Sept. 2004, July. – Sept. 2005 I was the scientific host of Prof. Dr. Abdelhadi Soudi (University of Morocco, Rabat) who obtained a Georg Forster-Research grant from the **Alexander von Humboldt-Foundation**.

Since 1994 Several presentations of DFKI's research activities in the area of intelligent information extraction (e.g., Deutsche Bank, Dresdner Bank, Media Control, Debis, Microsoft USA, German Defense Department, Siemens, SAP AG, CEA Capital Partners Management GmbH, M.I.T, IBM global services).

August 1995 offer for a post doc. position at the Artificial Intelligence Laboratory of the Massachusetts Institute of Technology (AI-Lab, MIT). I had to decline.

1991 Member of a committee whose task was to define the hard and software infrastructure for a new computer centre at the faculty of philosophy of the Saarland University.

Participation in Scientific Challenges

Sem Eval 2010, 2018, 2019

FEVER 2.0 2019

Open Question Answering TREC LiveQA track, 2015, 2016.

Multiword keyword extraction ACL SigLex event SemEval-2 Evaluation Exercises on Semantic Evaluation, 2010.

Recognizing Textual Entailment Active participation in the workshop on Recognizing Textual Entailment RTE–3 (2007, 5th best result) and RTE–4 as part of the Textual Analysis Conference (TAC) (2008, 3rd best result in RTE-4; 2009, 2nd best result in RTE-5; 2010, 4th best result in the RTE-6 Novelty Detection Subtask with new team members); 2011, 5th best result out of 13 participating teams in the RTE-7 Main Task; active participation in PETE 2010 (as part of SemEval-2 2010; 4th best result).

Cross–Lingual Evaluation Forum Active participation in track on open–domain cross–lingual question answering (QA at CLEF) tasks 2003 until 2008. We achieved best results for monolingual German and cross-lingual German–English and English–German.

Cross–Lingual Evaluation Forum Active participation in the Answer Validation Exercise 2007 and 2008. We achieved best results for English (2007, 2008) and German (2008).

Cross–Lingual Evaluation Forum Active participation in the track "Cross-Language Geographic Information Retrieval", 2008. We achieved best results for monolingual English.

Invited Talks

(This list contains talks I have held in addition to the talks I had to give as part of accepted conference and workshop papers.)

- "3SC - Semantic Search for Science Communication", presentation as part of the DFKI visit of the Summerschool IT Law and Legal Informatics , 17th August, 2022.

- "Beyond Chatbot Design - An Overview", presentation at ESR Workshop "Beyond Chatbot Design" organized and financed by LT-Bridge, 12th May, 2022.

- "How Deep Learning is Changing Natural Language Processing, presentation at the kick-oof meeting", Nachhaltige ökologische Ressourceneffizienz und Resilienz durch Robot Process Automation un Anwendungen der künstlichen Intelligenz" at TH Aschaffenburg, 1st July, 2021.

- "Monolingual Text Anonymisation for Electronic Health Records, presentation at the workshop", Anonymisation Training for young Researchers" organized by the EU project LT-Bridge, Online webinar, 25th May, 2021.

- "QA Systems - A Brief Overview", presented at "NLP crash course – Voice Applications, Data Collections and more" organized by GIZ and DFKI, March, 2021.

- "KI-basierte Textverarbeitung - Was ist das und für was ist das gut ? ", Künstliche Intelligenz: Schlüsseltechnologie der Zukunft. KI Konferenz im Rahmen der DiWo Kiel, 9th Sept. 2019.

- "Artificial Intelligence and Natural Language Processing ", symposium organized by Vicomtech, 20th June 2019, Sab Sebastian.

- "Towards Open Knowledge Exploration", presentation at "KIANA Systems", Saarbrücken, 27th February, 2017.

- "Intelligente Informationsextraktion", presentation at the seminar "Bibliothek und Information in der digitalen Welt" organized by the The Saarland University and State Library (SULB), Saarbrücken, 24th November, 2016.

- "Interactive Text Exploration", presentation at the "NII Shonan Meeting Towards Explanation Production Combining Natural Language Processing and Logical Reasoning", Shonan Village Center, Japan, Nov. 23, 2014.

- "Textual inference: Methods, open source platform and applications", Joined presentation together with Ido Dagan (BIU), Bernardo Magnini (FBK) and Sebastian Pado (University of Stuttgart), Tel Aviv, Israel, November, 2014.

- "Design and Realization of the EXCITEMENT Open Platform for Textual Entailment" colloquial talk at the language technbology institute of the "Ecole Nationale de l'Industrie Minérale", Agdal, Rabat, Marocco, June, 2014.

- "Design and Realization of the EXCITEMENT Open Platform for Textual Entailment" invited talk at the international "Joint Symposium on Semantic Processing: Textual Inference and Structures in Corpora" together with Sebastian Pado, Trento, Italy, November, 2013.

- "Sprachtechnologie und Informationsextraktion – Open Information Extraction" invited talk at the workshop "Aktuelle Herausforderungen und Lösungsansätze in der digitalen Forensik" organised by the Bundeskriminalamt (BKA), 8th of August, 2012.

- "TechWatch - Technologie- und Marktbeobachtung powered by SMILA.", invited talk at the Theseus conference about "SMILA - Das Framework für semantische Applikationen - Überblick und Einsatz", June 2011.

- "Hybrid Information Extraction - A Survey of Methods and Techniques", Conference: 10 Years Verbmobil - Review and Outlook - Multilingual processing of spontaneous speech, Saarbrücken, Germany, November, 2010.

- "Extraktion von Informationen aus Texten – Methoden und Technologien zur inhaltlichen Erschließung von relevanten Sachverhalten aus großen Textmengen" invited talk at the workshop "Innovative methodische Ansätze zur Reduktion und Analyse grosser und komplexer Datenmengen" organised by the Bundeskriminalamt (BKA), 8th of March, 2010.

- "Textual Entailment - Methoden und Anwendungen" invited talk, Department of Psychology, University of Würzburg, Germany, January, 2010.

- "Textual Entailment - Methoden und Anwendungen" invited talk, Philosophical Faculty of Heinrich–Heine University of Düsseldorf, October, 2009.

- "Data-oriented Parsing with Lexicalized Tree Insertion Grammars" invited talk, Nancy NLP seminar, CNRS, Nancy, France, March, 2009.

- "Web based Multilingual Question Answering" invited talk given during the computer science colloquium of the Technical University of Darmstadt, Germany, November, 2008.

- "Ontology-based Information Extraction and Question Answering — Coming Together" invited talk presented at the 1st Workshop on Ontology-based Information Extraction (OBIS–2008), Kaiserslautern, Germany, September, 2008.

- "Best Research Practice" invited talk given at the Doctoral Symposium of the NLDB-08, London, UK, June, 2008.

- "The Multilingual and Cross–lingual Web" invited talk presented at the symposium of *Human Language Technologies in Africa: Status and Prospects*, Rabat, Morocco, June, 2008

- "Towards Dynamic Interactive Information Extraction" invited talk at the 2nd workshop of the Ontoverse project, Heinrich–Heine University of Düsseldorf, November, 2007.

- "DFKI at Clef 2007", invited talk at the Clef workshop, Budapest, Hungary, September, 2007.

- "Interactive Systems and New Interface Technology: A Language Technology Perspective" short oral presentation of a white paper I was invited to prepare for the workshop "Interactive Systems and New Interface Technology" organized by the Interfaces Unit of the Directorate General Information Information Society and Media, EC, Luxembourg, January, 2006.

- "Open-domain Cross-lingual Question Answering from Unstructured Documents" talk given during the LCT Colloquium as part of the European Masters Program in Language and Communication Technologies at the Free University of Bozen, June, 2005.

- "Open-domain Cross-lingual Question Answering from Unstructured Documents" talk given during the OEFAI Colloquium, Vienna, June, 2005.

- "Open-domain Cross-lingual Question Answering from Unstructured Documents" talk given during the Computer Science Colloquium of the University of Klagenfurt, June, 2005.

- "Interleaving Parsing and Generation through Uniform Processing" talk given during the AI Lab Colloquium, MIT Artificial Intelligence Laboratory, Monday, July, 2002.

- "Language Technology and Intelligent Information Extraction for Structured Web–Search Engines", talk given during Computer Science Colloquium, TU Darmstadt, Monday, June, 2002.

- "Language Technology and Intelligent Information Extraction" talk given during the Information Retrieval Colloquium, Department of Computer Science, University Dortmund, Prof. Norbert Fuhr, May, 2002.

- "Language Technology and Intelligent Information Extraction for Structured Web–Search Engines", talk given during *Fachtagung: E-BUSINESS: TECHNOLOGIEN UND ANWENDUNGEN*, Umwelt-Campus Birkenfeld, April, 2002.

- "Information extraction from real-world German text", talk given during the Computational Linguistics Colloquium, joined seminar organized by the department of Computational Linguistics and Phonetics and the European Post-Graduate College in Language Technology and Cognitive Systems, Saarbrücken, April, 2001.

- "Towards parameterizable domain-adaptive information extraction", invited talk at the international workshop on innovative language technology and Chinese information processing, ILT&CIP–2001, Shanghai Jiao Tong University, April, 2001.

- "PARADIME – Parametrizable Domain-Adaptive Information and Message Extraction. Adapting the SMES System to the Soccer Domain", University of Karlsruhe, February, 2000.

- "Learning Stochastic Lexicalized Tree Grammars from HPSG", Dagstuhl-Seminar on "Efficient Language Processing with High-level Grammar Formalisms", October, 1999.

- "Intelligent Information Extraction - Technology and Applications", University of Osnabrück, June, 1999.

- "Intelligent Information Extraction - Technology and Applications", University of Koblenz/ Landau, June, 1999.

- "Learning Stochastic Lexicalized Tree Grammars from HPSG", German Natl. Research Center for Information Technology (GMD), St. Augustin, January, 1999.

- "Text Mining und Informationsextraktion im Bankenbereich", Dresdner Bank, Frankfurt, May, 1999.

- "Intelligente Methoden der Informationsextraktion aus freien Textdokumenten", talk given during the "Informatikforum 98", a forum for knowledge transfer from research to industry, Saarland University, October, 1998.

- "Data-driven extraction of Lexicalized Tree Substitution Grammars from HPSG", University of Groningen, Netherlands, November, 1997.

- "Application of Explanation-based Learning to Natural Language Generation", CSLI, Stanford, August, 1997.

- "Application of Explanation-based Learning to Efficient Processing of Constraint-based Grammars", CSLI, Stanford, Juli, 1996.

- "Ein uniformes Verarbeitungsmodell für Parsing und Generierung natürlicher Sprache", University of Koblenz/Landau, June, 1996.

- "Ein uniformes Verarbeitungsmodell für Parsing und Generierung natürlicher Sprache", University of Tübingen, November, 1994.

- "Reversible Grammatiken und Natürlich–sprachliche Systeme", *invited talk given at the "35sten Tagung experimentell arbeitender Psychologen, TEAP-35"*, Münster, Germany, 1993.

- "BiLD: Bidirectional Linguistic Deduction", *talk given at the "1st International Workshop on Constraint-based Generation"*, Bad Teinach, Germany, November 1990.

- "Morphix: Ein hochportabler Lemmatisierungsmodul für das Deutsche.", AEG, Konstanz, Mai, 1987.

Publications[1]

PhD Thesis and Habilitation

1. **G. Neumann** A Uniform Computational Model for Natural Parsing and Generation. In Saarbrücken Dissertations in Computational Linguistics and Language Technology, Volume 1, 1998, 1-203, ISBN 3-933218-00-4.

2. **G. Neumann** Domänenadaptive Kerntechnologien für die Analyse und Synthese von Natürlicher Sprache. Habilitation in Computational Linguistics, University of the Saarland, July, 2004 (German survey paper - English title is "Domain-adaptive Core Technology for the Analysis and Synthesis of Natural Language", and 8 English papers, all of them listed below).

Books and Edited Collections

3. **A. Soudi, A. Farghaly, G. Neumann and R. Zbib** (Edt.) *Challenges for Arabic Machine Translation* . Series: Natural Language Processing , Vol. 9, 2012, 157 p., Hardcover, ISBN: 978-90-272-4995-1.

4. **A. Soudi, A. van den Bosch, and G. Neumann** (Edt.) *Arabic Computational Morphology: Knowledge-based and Empirical Methods.* Series: Text, Speech and Language Technology , Vol. 38, 2007, 305 p., Hardcover, ISBN: 978-1-4020-6045-8.

5. **B. Adrian, G. Neumann, A. Troussov, B. Popov (Edt.)** *Proceedings 1st International and KI-08 Workshop on Ontology-based Information Extraction Systems.* CEUR-WS volume 400, Kaiserslautern, Germany, DFKI, 2008. Online at http://ftp.informatik.rwth-aachen.de/Publications/CEUR-WS/Vol-400/proceedings.pdf.

Book Articles

6. **G. Neumann, G. Paaß and D. van den Akker** *Linguistics to structure unstructured documents.* in Wolfgang Wahlster; Hans-Joachim Grallert; Stefan Wess; Hermann Friedrich; Thomas Widenka (eds), Springer International Publishing Switzerland, ISBN 978-3-319-06755-1, pp. 383-392, 2014.

7. **G. Neumann and S. Schmeier** *MobEx - a System for Exploratory Search on the Mobile Web.* Agents and Artificial Intelligence volume 358, Communications in Computers and Information Science, Pages 116-130, Springer, 3/2013.

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[1]The papers can be retrieved from: http://www.dfki.de/~neumann/publications.html

8. **G. Neumann and S. Schmeier** *Strategies for Guided Exploratory Search on the Mobile Web.* Knowledge Discovery, Knowledge Engineering and Knowledge Management. 4th International Joint Conference, IC3K 2012, Barcelona, Spain, October 4-7, 2012. Revised Selected Papers Series: Communications in Computer and Information Science, Vol. 415, 2013.

9. **G. Neumann and S. Schmeier** *Interactive Topic Graph Extraction and Exploration of Web Content.* In Poibeau, T.; Saggion, H.; Piskorski, J.; Yangarber, R. (Eds.) Multi-source, Multilingual Information Extraction and Summarization, Springer, Series: Theory and Applications of Natural Language Processing, August, 2012.

10. **G. Neumann and B. Crysmann** *Extracting Supertags from HPSG-based Tree Banks.* In S. Bangalore and A. Joshi (eds): Supertagging - Using Complex Lexical Descriptions in Natural Language Processing, Pages 313-335, MIT Press, Cambridge, Massachusetts, 2010.

11. **G. Neumann** *Text–basiertes Informationsmanagement.* In Carstensen, K.-U.; C. Ebert; C. Endriss; S. Jekat; R. Klabunde & H. Langer (Hrsg.) Computerlinguistik und Sprachtechnologie. Eine Einführung. 3., überarbeitete und erweiterte Auflage, Heidelberg: Spektrum Akademischer Verlag, Pages 576-615, 2009.

12. **R. Wang and G. Neumann** *Adapting QA Components to Mine Answers in Speech Transcripts.* In Advances in Multilingual and Multimodal Information Retrieval Lecture Notes in Computer Science, Volume 5152, 2008, pp 410-413.

13. **Soudi, A., Neumann. G., and A. Van den Bosch** *Arabic Computational Morphology: Knowledge-based and Empirical Methods.* In A. Soudi, A. van den Bosch, and G. Neumann (eds.), Arabic Computational Morphology: Knowledge-based and EmpiricalMethods, pages 1-14, Springer, 2007.

14. **B. Sacaleanu and G. Neumann** *A Cross-Lingual German-English Framework for Open-Domain Question Answering.* In Evaluation of Multilingual and Multi-modal Information Retrieval - 7th Workshop of the Cross-Language Evaluation Forum, CLEF 2006, Alicante, Spain, September 20-22, 2006, Revised Selected Papers; Peters, C., Clough, P., Gey, F.C., Karlgren, J., Magnini, B., Oard, D.W., de Rijke, M., Stempfhuber, M. (eds.), Vol. 4730, 2007, ISBN 978-3-540-74998-1, Softcover.

15. **A. Figueroa and G. Neumann** *Language Independent Answer Prediction from the Web.* In *Advances in Natural Language Processing*, Springer series "Lecture Notes in Computer Science", pages 423-434, Springer-Verlag Berlin, Heidelberg, New-York, 2006.

16. **G. Neumann** *A Hybrid Machine Learning Approach for Information Extraction from Free Texts.* In Spiliopoulou at al. (eds.). *From Data and Information Analysis to Knowledge Engineering.* Springer series "Studies in Classification, Data Analysis, and Knowledge Organization", pages 390-397, Springer-Verlag Berlin, Heidelberg, New-York, 2006.

17. **G. Neumann and B. Sacaleanu** *Experiments on Cross–Linguality and Question–type driven Strategy Selection for Open–Domain Question Answering.* In: C. Peters et al. (eds.): Clef 2005, LNCS 4022, Springer-Verlag Berlin Heidelberg , pp. 429–438, 2006.

18. **G. Neumann and B. Sacaleanu** *Experiments on Robust NL Question Interpretation and Multi-layered Document Annotation for a Cross-Language Question/Answering System.* In: C. Peters et al. (eds): Clef 2004, LNCS 3491, pp. 411-422, Springer Berlin Heidelberg, 2005.

19. **G. Neumann** *Informationsextraktion.* In Carstensen, K.-U.; C. Ebert; C. Endriss; S. Jekat; R. Klabunde & H. Langer (Hrsg.): Computerlinguistik und Sprachtechnologie. Eine Einführung. 2., berarbeitete und erweiterte Auflage. Heidelberg: Elsevier, 2004.

20. **G. Neumann** *A Data-driven Approach to Head-driven Phrase-Structure Grammar.* In R. Bod, R. Scha and K. Sima'an (eds.) Data-Oriented Parsing, CSLI Publications, 2003.

21. **G. Neumann** *A Uniform Method for Automatically Extracting Stochastic Lexicalized Tree Grammars from Treebanks and HPSG.* In A. Abeille (ed.) Building and using syntactically annotated corpora, Kluwer, 2003.

22. **A. Maedche, G. Neumann and S. Staab** *Bootstrapping an Ontology-based Information Extraction System.* In Szczepaniak, Piotr S.; Segovia, Javier; Kacprzyk, Janusz; Zadeh, Lotfi A. (eds.), Intelligent Exploration of the Web, pages 345–360, Springer, ISBN 3-7908-1529-2, 2002.

23. **G. Neumann** *Programming Languages in Artificial Intelligence.* In Bidgoli (ed) Encyclopedia of Information Systems, pages 31-45, Academic Press, San Diego, CA, ISBN 0-12-227240-4, 2002.

24. **G. Neumann** *Informationsextraktion.* Carstensen, K.-U.; C. Ebert; C. Endriss; S. Jekat; R. Klabunde & H. Langer (Hrsg.): Computerlinguistik und Sprachtechnologie. Eine Einführung. Heidelberg: Spektrum, 2001.

25. **G. Erbach, G. Neumann and H. Uszkoreit** *MULINEX — Multilingual Indexing, Editing and Navigation Extensions for the World Wide Web.* In: David Hull and Doug Oard (eds.) Cross-Language Text and Speech Retrieval – Papers from the 1997 AAAI Spring Symposium, AAAI Press, Menlo Park, 1997.

26. **G. van Noord and G. Neumann** *Syntactic Generation.* In: "Survey of the State of the Art in Human Language Technology" edited by R. A. Cole, J. Mariani, H. Uszkoreit, A. Zaenen and V. Zue. Cambridge University Press and Giardini, 1997.

27. **G. Neumann and G. van Noord** *Reversibility and Self-Monitoring in Natural Language Generation.* In: Strzalkowski (ed.) Reversible Grammars in Natural Language Processing, 59-96, Kluwer, 1994.

Journal Articles

28. **Ekaterina Loginova, Stalin Varanasi and Günter Neumann** *Towards End-to-End Multilingual Question Answering.* In Journal Information Systems Frontiers, 23(1): 227-241 (2021).

29. **Alejandro Figueroa, Carlos Gómez-Pantoja, and Günter Neumann** *Integrating heterogeneous sources for predicting question temporal anchors across Yahoo! Answers.* In journal Information Fusion, Volume 50, October 2019, Pages 112-125.

30. **A. Figueroa and G. Neumann** *Context-Aware Semantic Classification of Search Queries for Browsing Community Question-Answering Archives.* In Journal Knowledge-Based Systems, Volume 96, pp. 1-13, 2016

31. **A. Figueroa and G. Neumann** *Category-specific models for ranking effective paraphrases in community Question Answering. Expert Systems With Applications*, Volume 41, Issue 10, August 2014, Pages 4730 – 4742.

32. **O. Ferrandez, C. Spurk, M. Kouylekov, I. Dornescu, S. Ferrandez, M. Negri, R. Izquierdo, D. Tomas, C. Orasan, G. Neumann, B. Magnini and J. Luis Vicedo** *The QALL-ME Framework: A specifiable-domain multilingual Question Answering architecture.* Journal of Web Semantics: Science, Services and Agents on the World Wide Web, Volume 9, Number 1, pages 137–145, March 2011.

33. **A. Figueroa, G. Neumann, and J. Atkinson** *Searching for Definition Answers on the Web using Surface Patterns.* IEEE Computer, volume 42 number 4, Pages 68–76, IEEE, 4/2009.

34. **G. Neumann** *A Computational Linguistics Perspective on the Anticipatory Drive. Commentary on the target article by Martin V. Butz.* In Constructivist Foundations, November 2008, Vol. 4., No. 1, 26-28.

35. **A. Figueroa and G. Neumann** *Genetic Algorithms for data-driven Web Question Answering. Evolutionary Computation Journal*, Spring 2008, Vol. 16, No. 1: 127–147.

36. **G. Neumann** *Strategien zur Webbasierten Multilingualen Fragenbeantwortung – Wie Suchmaschinen zu Antwortmaschinen werden.* In Journal "Computer Science - Research and Development", Volume 22, Number 2 / February 2008, pages 71–84.

37. **G. Neumann and F. Xu** *Mining Natural Language Answers from the Web.* In International Journal *Web Intelligence and Agent Systems*, Volume 2. Number 2, 2004.

38. **G. Neumann and J. Piskorski** *A Shallow Text Processing Engine.* In International Journal *Computational Intelligence*, Volume 18, Number 3, August 2002, 451–476.

39. **G. Neumann and S. Schmeier** *Shallow Natural Language Technology and Text Mining.* In KI: German Journal on Artificial Intelligence, Special Issue on Text Mining, T. Joachims, E. Leopold (Eds.), ISSN: 0933-1875, 16 (2002) 2.

40. **M. Klettke, G. Neumann, M. Bietz, I. Bruder, A. Heuer, D. Priebe, M. Becker, J. Bedersdorfer, H. Uszkoreit, A. Maedche, S. Staab and R. Studer** *GETESS - Ontologien, objektrelationale Datenbanken und Textanalyse als Bausteine einer semantischen Suchmaschine.* In Journal *Datenbank-Spektrum* 1, 2001, 14–24.

41. **G. Neumann** *Interleaving Natural Language Parsing and Generation Through Uniform Processing.* In Journal of Artificial Intelligence 99, 1998, 121-163.

42. **G. Neumann** *Grammatikformalismen in der Generierung und ihre Verarbeitung.* In KI: German Journal of Artificial Intelligence, Special Issue on Natural Language Generation, W. Hoeppner (Ed.), 1993, 22–30.

Conference Articles

43. **Stalin Varanasi, Saadullah Amin and Günter Neumann** *AutoEQA: Auto-Encoding Questions for Extractive Question Answering*, The 2021 Conference on Empirical Methods in Natural Language Processing (EMNLP-2021), Nov. 2021.

44. **Saadullah Amin and Günter Neumann** *T2NER: Transformers based Transfer Learning Framework for Name Entity Recognition*, The 16th Conference of the European Chapter of the Association for Computational Linguistics (EACL), demo session, 2021.

45. **Saadullah Amin, Stalin Varanasi, Katherine Dunfield and Günter Neumann** *LowFER: Low-rank Bilinear Pooling for Link Prediction.* Proceedings of the 37th International Conference on Machine Learning (ICML-2020), 2020.

46. **Eleni Metheniti and Günter Neumann** *Wikinflection Corpus: A (Better) Multilingual, Morpheme-Annotated Inflectional Corpus.* In LREC - International Conference on Language Resources and Evaluation (LREC-2020) May 1-4 LREC 5/2020.

47. **Dominik Stammbach, Stalin Varanasi and Günter Neumann** *DOMLIN at SemEval-2019 Task 8: Automated Fact Checking exploiting Ratings in Community Question Answering Forums*, In proceedings of SemEval-2019 - International Workshop on Semantic Evaluation, June, 2019.

48. **Dominik Stammbach and Günter Neumann** *Team DOMLIN: Exploiting Evidence Enhancement for the FEVER Shared Task*, In proceedings of FEVER 2.0 workshop at EMNLP-2019.

49. **Saadullah Amin, Günter Neumann, Katherine Dunfield, Anna Vechkaeva, Kathryn Annette Chapman, and Morgan Kelly Wixted** *MLT-DFKI at CLEF eHealth 2019: Multi-label Classification of ICD-10 Codes with BERT*, In proceedings of CLEF-2019.

50. **Eleni Metheniti, Pomi Baram Park, Kristina Kolesova and Günter Neumann** *Identifying grammar rules for language education with dependency parsing in German*, In proceedings of Depling-2019, Paris, 2019.

51. **Eleni Metheniti and Günter Neumann** *Wikinflection: Massive semi-supervised generation of multilingual inflectional corpus from Wiktionary.* Proceedings of the 17th International Workshop on Treebanks and Linguistic Theories (TLT 2018), Linköping Electronic Conference Proceedings, Oslo, Norway, Linköping University Electronic Press, Linköpings universitet, 12/2018

52. **Ekaterina Loginova, Günter Neumann** *An Interactive Web-Interface for Visualizing the Inner Workings of the Question Answering LSTM.* EMNLP-2018, System Demonstration, Brüssel, Belgium, EMNLP, 11/2018.

53. **Khyathi Raghavi Chandu, Ekaterina Loginova, Vishal Gupta, Josef van Genabith, Günter Neumann, Manoj Kumar Chinnakotla, Eric Nyberg, Alan W. Black** *Code-Mixed Question Answering Challenge: Crowd-sourcing Data and Techniques.* CodeSwitch@ACL 2018: 29-38.

54. **Ekaterina Loginova, Stalin Varanasi, Günter Neumann** *Towards Multilingual Neural Question Answering.* ADBIS (Short Papers and Workshops) 2018: 274-285

55. **Tyler Renslow and Günter Neumann** *LightRel at SemEval-2018 Task 7: Lightweight, Fast and Robust Relation Classification.* In proceedings of SemEval-2018 - International Workshop on Semantic Evaluation, June, 2018.

56. **Georg Heigold, Stalin Varanasi, Günter Neumann and Josef van Genabith** *How Robust Are Character-Based Word Embeddings in Tagging and MT Against Wrod Scramlbing or Randdm Nouse?.* In proceedings of AMTA, 2018.

57. **Philip Hake, Peter Fettke, Günter Neumann, Peter Loos** *Extracting Business Objects and Activities from Labels of German Process Models.* DESRIST 2017: 21-38.

58. **Georg Heigold, Günter Neumann and Josef van Genabith** *An Extensive Empirical Evaluation of Character-Based Morphological Tagging for 14 Languages.* In proceedings of EACL-2017.

59. **Georg Heigold, Günter Neumann and Josef van Genabith** *Scaling Character-Based Morphological Tagging to Fourteen Languages .* Proceedings of IEEE International Conference on Big Data, Washington, DC, DC, USA, IEEE, IEEE, 12/2016

60. **S. Varanasi and G. Neumann** *Question/Answer Matching for Yahoo! Answers Using a Corpus-Based Extracted Ngram-based Mapping.* The Twenty-Fourth Text REtrieval Conference (TREC 2015) Proceedings, NIST Special Publication: SP 500-319, Gaithersburg, MD, USA, NIST, NIST, 2/2016.

61. **B. Magnini, I. Dagan, G. Neumann, and S. Pado** *Entailment Graphs for Text Analytics in the Excitement Project.* Proceedings of the 17th International Conference on Text, Speech and Dialogue (TSD-2014), Brno, Czech Republic, September 8–12, 2014.

62. **K. Eichler, A. Gabryszak, G. Neumann** *An analysis of textual inference in German customer emails.* Proceedings of the Third Joint Conference on Lexical and Computational Semantics, Dublin, 23/24 August, 2014.

63. **B. Magnini, R. Zanoli, G. Noh, G. Neumann, K. Eichler, S. Pado, I. Dagan, A Stern, and O. Levy** *The Excitement Open Platform for Textual Inferences.* 52th ACL, Demo paper, Baltimore, USA, 2014.

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