Sebastian Ruder

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Experience

- **AYLIEN**   **Dublin, Ireland**
  NLP Researcher   *10/2015 – Present*

    – I work on developing and improving systems for sentiment analysis with a focus on aspects and entities and adapting systems to new domains and languages. For the latter objective, I also work on developing new general-purpose multilingual embeddings.

- **INSIGHT Centre for Data Analytics**   **Galway, Ireland**
  Research Assistant   *10/2015 – Present*

- **IBM**   **Munich, Germany**
  Extreme Blue Intern, Watson   *08/2015 – 09/2015*

    – Design and implementation of text analysis ML components applied to customer data of leading German insurance company *Versicherungskammer Bayern*; automatically identifies semantics and sentiments of incoming e-mails, e.g. complaints.
    – Pitched project to audience at European Expo and was chosen as one of eight teams to pitch to IBM customers; project was referred to as a "lighthouse project for Watson in Europe" by jury members
    – Project was awarded Digital Thought Leadership award in leading contest of German insurance industry by leading German newspaper *Süddeutsche Zeitung* and Google[1] and covered by *Süddeutsche Zeitung*[2]

- **Microsoft**   **Dublin, Ireland**
  Linguistic Engineering Intern, XBox   *02/2015 – 06/2015*

    – Contributed to developing an ML system for analyzing linguistic complexity in C#; performed feature analysis.
    – Created proof of concept and implemented terminology validation using morphology generation.
    – Evangelized customer sentiment analysis efforts, drove cross-team collaboration.

- **The OpenCog Foundation**   opencog.org
  Google Summer of Code Intern   *Summer 2014*

    – Enabled system to make common-sense inferences and deductions ("Socrates is mortal", etc.)
    – Applied inference using probabilistic logic networks on the output of a relationship extractor.
    – Documented and extended undocumented temporal inference Python code.

- **Lingenio GmbH**   **Heidelberg, Germany**
  Software Engineering Intern   *Spring 2014*

    – Created a converter from TBX in Lingenio native format and vice versa.
    – Integrated TBX term bases in Dictionary Server; localization: Jinja2, Flask-Babel; configuration: lighttpd.

- **SAP**   **Walldorf, Germany**
  Working Student, Development University   *02/2013 – 02/2014*

    – Created content for internal programming and Design Thinking courses.
    – Automated reporting processes, e.g. reduced expenditure of work for monthly training report by > 75%, i.e. from 8 hours to 2 hour using advanced Excel / VBA scripts.

- **TEMIS**   **Heidelberg, Germany**
  Freelancing Developer   *02/2013 – 10/2013*

    – Created a cosine metric-based word sense disambiguation system leveraging tens of GB of text extracted from Wikipedia and DBpedia in Python; achieved performance comparable to the state-of-the-art.

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[1] https://www.sv-veranstaltungen.de/site/fachbereiche/versicherungs-leuchtturm
[2] http://www.sueddeutsche.de/wirtschaft/kuenstliche-intelligenz-aerger-fuer-watson-1.2772927

Education

- **National University of Ireland**   **Galway, Ireland**
  College of Engineering and Informatics, Ph.D. Natural Language Processing   *10/2015 – Present*
    - Research in applying ML and deep learning techniques to cross-lingual sentiment analysis in different domains as well as aspect- and entity-based. I'm interested in developing new algorithms and data sources to improve sentiment analysis systems and adapting them to other languages by leveraging existing monolingual / bilingual data as well as generating new data.

- **Ruprecht-Karls-Universität Heidelberg**   **Heidelberg, Germany**
  Institute of Computational Linguistics, B.A. Computational Linguistics, English Linguistics   *10/2012 – 09/2015*
    - Final grade: 1.0 (German scale), i.e. A+; thesis: *Construction and Analysis of an Emotion Proposition Store*
    - Relevant courses: Statistics, Algorithms and Data Structures, Machine Learning, Formal Syntax & Semantics
    - Relevant online courses: Machine Learning (Stanford), AI (MIT), Into to Algorithms (Berkeley), Deep Learning for NLP (Stanford), Deep Learning (Oxford)

- **Trinity College**   **Dublin, Ireland**
  School of Computer Science and Statistics, Computer Science and Language   *09/2014 – 01/2015*
    - Semester abroad
    - relevant courses: AI, Fuzzy Logic, High-Tech Entrepreneurship

Awards

- Scholarship of the Irish Research Council   *10/2015 – Present*
- Cusanuswerk scholarship of the German state   *04/2014 – 09/2015*
- Microsoft Certified Professional (Programming in C#)   *06/2015*
- Best Delegate award in various Model United Nations conferences   *11/2012 – 01/2014*

Languages and Technologies

Programming Languages: Python, Java, C#, R, C, LaTeX, Prolog, JavaScript, SPARQL
Technologies: SciPy, NumPy, Keras, TensorFlow, scikit-learn, NLTK, CoreNLP, MALLET, Weka, UNIX, Git
Natural Languages: Fluent in German and English, advanced in French and Spanish, beginner in Portuguese and Latin
Open Source Contributions: The OpenCog Foundation

Publications

- Sebastian Ruder, Parsa Ghaffari, John Breslin (2016). INSIGHT-1 at SemEval-2016 Task 4: Convolutional Neural Networks for Sentiment Classification and Quantification. *In Proceedings of the 10th International Workshop on Semantic Evaluation (SemEval 2016)*, San Diego, US.

- Sebastian Ruder, Parsa Ghaffari, John Breslin (2016). INSIGHT-1 at SemEval-2016 Task 5: Convolutional Neural Networks for Multilingual Aspect-based Sentiment Analysis. *In Proceedings of the 10th International Workshop on Semantic Evaluation (SemEval 2016)*, San Diego, US.

Reviewing

- Reviewer SemEval-2016 Task 5: Aspect-based Sentiment Analysis