

# Sebastian Ruder

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## Education

- **National University of Ireland** **Galway, Ireland**  
*College of Engineering and Informatics, Ph.D. Natural Language Processing* 10/2015 – 02/2019
  - **University of Copenhagen** **Copenhagen, Denmark**  
*Research visit, Natural Language Processing Group, Computer Science Department* 04/2017 – 06/2017
  - **Trinity College** **Dublin, Ireland**  
*Semester abroad, School of Computer Science and Statistics, Computer Science and Language* 09/2014 – 01/2015
  - **Ruprecht-Karls-Universität Heidelberg** **Heidelberg, Germany**  
*Institute of Computational Linguistics, B.A. Computational Linguistics, English Linguistics* 10/2012 – 09/2015
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## Experience

- **DeepMind** **London, United Kingdom**  
*Research Scientist* 03/2019 – Present
  - **AYLIEN** **Dublin, Ireland**  
*Research Scientist* 10/2015 – 02/2019
  - **IBM** **Munich, Germany**  
*Extreme Blue Intern, Watson* 08/2015 – 09/2015
  - **Microsoft** **Dublin, Ireland**  
*Linguistic Engineering Intern, Xbox* 02/2015 – 06/2015
  - **The OpenCog Foundation** **opencog.org**  
*Google Summer of Code Intern* Summer 2014
  - **Lingenio GmbH** **Heidelberg, Germany**  
*Software Engineering Intern* Spring 2014
  - **SAP** **Walldorf, Germany**  
*Working Student, Development University* 02/2013 – 02/2014
  - **TEMIS** **Heidelberg, Germany**  
*Freelancing Developer* 02/2013 – 10/2013
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## PhD thesis

1. **Sebastian Ruder** (2019). Neural Transfer Learning for Natural Language Processing. *National University of Ireland, Galway*.

## Refereed conference publications

2. **Sebastian Ruder**, Joachim Bingel, Isabelle Augenstein, Anders Søgaard (2019). Latent Multi-task Architecture Learning. In *Proceedings of AAAI 2019*, Honolulu, Hawaii.
3. Victor Sanh, Thomas Wolf, **Sebastian Ruder** (2019). A Hierarchical Multi-task Approach for Learning Embeddings from Semantic Tasks. In *Proceedings of AAAI 2019*, Honolulu, Hawaii.
4. **Sebastian Ruder\***, Ryan Cotterell\*, Yova Kementchedjhieva, Anders Søgaard (2019). A Discriminative Latent-Variable Model for Bilingual Lexicon Induction. In *Proceedings of EMNLP 2018*, Brussels, Belgium.
5. Yova Kementchedjhieva, **Sebastian Ruder**, Ryan Cotterell, Anders Søgaard (2018). Generalizing Procrustes Analysis for Better Bilingual Dictionary Induction. In *Proceedings of CoNLL 2018*, Brussels, Belgium.

6. **Sebastian Ruder**, Barbara Plank (2018). Strong Baselines for Neural Semi-supervised Learning under Domain Shift. In *Proceedings of ACL 2018*, Melbourne, Australia.
7. Jeremy Howard\*, **Sebastian Ruder**\* (2018). Universal Language Model Fine-tuning for Text Classification. In *Proceedings of ACL 2018*, Melbourne, Australia.
8. Anders Søgaard, **Sebastian Ruder**, Ivan Vulić (2018). On the Limitations of Unsupervised Bilingual Dictionary Induction. In *Proceedings of ACL 2018*, Melbourne, Australia.
9. **Sebastian Ruder**, John Glover, Afshin Mehrabani, Parsa Ghaffari (2018). 360° Stance Detection. In *Proceedings of NAACL-HLT 2018: System Demonstrations*, New Orleans, US.
10. Isabelle Augenstein\*, **Sebastian Ruder**\*, Anders Søgaard (2018). Multi-task Learning of Pairwise Sequence Classification Tasks Over Disparate Label Spaces. In *Proceedings of NAACL-HLT 2018*, New Orleans, US.
11. **Sebastian Ruder**, Barbara Plank (2017). Learning to select data for transfer learning with Bayesian Optimization. In *Proceedings of the 2017 Conference on Empirical Methods in Natural Language Processing*, Copenhagen, Denmark.
12. **Sebastian Ruder**, Parsa Ghaffari, John G. Breslin (2016). A Hierarchical Model of Reviews for Aspect-based Sentiment Analysis. In *Proceedings of the 2016 Conference on Empirical Methods in Natural Language Processing*, pages 999–1005, Austin, Texas, US.

## Journal publications

13. **Sebastian Ruder**, Ivan Vulić, Anders Søgaard (2019). A Survey Of Cross-lingual Word Embedding Models. To be published in *Journal of Artificial Intelligence Research*.

## Refereed workshop publications

14. **Sebastian Ruder**, Parsa Ghaffari, John G. Breslin (2016). Towards a continuous modeling of natural language domains. In *Proceedings of EMNLP 2016 Workshop on Uphill Battles in Language Processing: Scaling Early Achievements to Robust Methods*, pages 53–57, Austin, Texas, US.
15. Ian D. Wood and **Sebastian Ruder** (2016). Emoji as emotion tags for tweets. In *Emotion and Sentiment Analysis Workshop, LREC*, Portorož, Slovenia.
16. **Sebastian Ruder**, Parsa Ghaffari, John G. 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.
17. **Sebastian Ruder**, Parsa Ghaffari, John G. 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.

## Preprints

18. Matthew Peters\*, **Sebastian Ruder**\*, Noah A. Smith (2019). To Tune or Not to Tune? Adapting Pretrained Representations to Diverse Tasks. arXiv preprint arXiv:1903.05987.
19. Goran Glavas, Robert Litschko, **Sebastian Ruder**, Ivan Vulić (2019). How to (Properly) Evaluate Cross-Lingual Word Embeddings: On Strong Baselines, Comparative Analyses, and Some Misconceptions. arXiv preprint arXiv:1902.00508.
20. Chris Hokamp, **Sebastian Ruder**, John Glover (2018). Off-the-Shelf Unsupervised NMT. arXiv preprint arXiv:1811.02278.
21. **Sebastian Ruder** (2017). An Overview of Multi-Task Learning in Deep Neural Networks. arXiv preprint arXiv:1706.05098.
22. **Sebastian Ruder**, Parsa Ghaffari, John G. Breslin (2017). Data Selection Strategies for Multi-Domain Sentiment Analysis. arXiv preprint arXiv:1702.02426.

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\*Equal contribution.

23. **Sebastian Ruder**, Parsa Ghaffari, John G. Breslin (2017). Knowledge Adaptation: Teaching to Adapt. arXiv preprint arXiv:1702.02052.
24. **Sebastian Ruder** (2016). An overview of gradient descent optimization algorithms. arXiv preprint arXiv:1609.04747.
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## Certificates and awards

- Google Developer Expert – Machine Learning 12/2017 – 02/2019
  - Scholarship of the Irish Research Council 10/2015 – 02/2019
  - Scholarship of the *Cusanuswerk*, one of the 13 German sponsorship organizations 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
  - Second and third prizes *Bundeswettbewerb Fremdsprachen*, national foreign languages competition 2007 – 2008
  - First and second prizes *Landeswettbewerb Mathematik*, state mathematics competition 2006 – 2008
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## Languages and Technologies

**Programming Languages:** Python, Java, C#, R, C,  $\text{\LaTeX}$ , Prolog, JavaScript, SPARQL

**Technologies:** SciPy, NumPy, Keras, TensorFlow, DyNet, 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

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## Service and professional activities

- **Reviewer for journals:** Transactions on Audio, Speech and Language Processing; Artificial Intelligence; IEEE Computational Intelligence Magazine; Natural Language Engineering
  - **Reviewer for workshops:** RELNLP 2018, DeepLo 2018, SemEval-2016 Task 5
  - **Reviewer for conferences:** ACL 2018, 2019; ICML 2019; NAACL-HLT 2019; ICLR 2019; EMNLP 2018; CoNLL 2018
  - **Organizer:** NLP Dublin Meetup<sup>1</sup>, NLP Session at Deep Learning Indaba 2018<sup>2</sup>
  - **Workshop organizer:** 4th Workshop on Representation Learning for NLP (Repl4NLP) at ACL 2019
  - **Tutorial organizer:** Transfer Learning in NLP at NAACL-HLT 2019; Unsupervised Cross-lingual Representation Learning at ACL 2019
  - **Chair:** Program chair at EurNLP 2019<sup>3</sup>; Publication chair at CoNLL 2019; Publicity chair at EMNLP 2019
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## Talks

Talks are available at <http://ruder.io/talks/>.

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<sup>1</sup><https://www.meetup.com/NLP-Dublin/>

<sup>2</sup><http://www.deeplearningindaba.com/schedule-2018.html>

<sup>3</sup><https://www.eurnlp.org/>