

MILOŠ STANOJEVIĆ

SENIOR RESEARCH SCIENTIST AT GOOGLE DEEPMIND

RESEARCH INTERESTS

- Natural Language Processing (MT and Parsing)
- Structured Prediction
- Deep Learning
- Formal Syntax and Semantics
- Unsupervised Learning

WORK EXPERIENCE

- Nov 2021 – now **Senior Research Scientist**
Google DeepMind
Language Team, London, UK
- Nov 2017 –
Oct 2021 **Research Associate**
University of Edinburgh
with Prof. Mark Steedman
School of Informatics, Edinburgh, UK
- July 2017 –
Oct 2017 **Internship**
Nuance Communications (now part of Microsoft)
with Prof. Edward Stabler
Natural Language and AI group, Sunnyvale, US

EDUCATION

- 2013 – 2017 **Ph.D. Natural Language Processing**
University of Amsterdam, Netherlands
topic: Permutation Forests for Modeling Word Order in MT
supervised by Prof. Khalil Sima'an and Dr. Wilker Aziz
- 2011 – 2013 **Mgr. Mathematical Linguistics**
Charles University in Prague, Czech Republic
- 2010 – 2011 **M.Sc. Human Language Science and Technology**
University of Malta, Malta
- 2006 – 2010 **B.Sc. Electrical Engineering**
University of Niš, Serbia
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PUBLICATIONS

- arXiv 2022** [Unbiased and Efficient Sampling of Dependency Trees](#)
arXiv
Miloš Stanojević
- arXiv 2022** [Transformer Grammars: Augmenting Transformer Language Models with Syntactic Inductive Biases at Scale](#)
arXiv
Laurent Sartran, Samuel Barrett, Adhiguna Kuncoro,
Miloš Stanojević, Phil Blunsom, Chris Dyer
- EMNLP 2021** [A Root of a Problem: Optimizing Single-Root Dependency Parsing](#)
Conference on Empirical Methods in Natural Language Processing
Miloš Stanojević and Shay B. Cohen
- CL journal 2021** [Formal Basis of a Language Universal](#)
Computational Linguistics Journal
Miloš Stanojević and Mark Steedman
- IWCS 2021** [Computing All Quantifier Scopes with CCG](#)
International Conference on Computational Semantics
Miloš Stanojević and Mark Steedman
- CMCL 2021** [Modeling incremental language comprehension in the brain with Combinatory Categorical Grammar](#)
Workshop on Cognitive Modeling and Computational Linguistics
Miloš Stanojević, Shohini Bhattachali, Donald Dunagan, Luca Campanelli, Mark Steedman, Jonathan Brennan, John Hale
- CASE 2021** [Modality and Negation in Event Extraction](#)
Workshop on Challenges and Applications of Automated Extraction of Socio-political Events from Text
Sander Bijl de Vroe, Liane Guillou, **Miloš Stanojević**, Nick McKenna and Mark Steedman
- ACL 2020** [Max-Margin Incremental CCG Parsing](#)
Annual Meeting of the Association for Computational Linguistics
Miloš Stanojević and Mark Steedman
- IWPT 2020** [Span-Based LCFRS-2 Parsing](#)
The 16th International Conference on Parsing Technologies
Miloš Stanojević and Mark Steedman
- CUNY 2020** [Predictive Processing of Coordination in CCG](#)
CUNY Human Sentence Processing Conference
Miloš Stanojević, John Hale and Mark Steedman

- ACL 2019** [Wide-Coverage Neural A* Parsing for Minimalist Grammars](#)
Annual Meeting of the Association for Computational Linguistics
 John Torr, **Miloš Stanojević**, Mark Steedman and Shay B. Cohen
- FG 2019** [On the Computational Complexity of Head Movement and Affix Hopping](#)
Conference on Formal Grammar
Miloš Stanojević
- NAACL 2019** [CCG Parsing Algorithm with Incremental Tree Rotation](#)
Conference of the North American Chapter of the Association for Computational Linguistics
Miloš Stanojević and Mark Steedman
- CMCL 2019** [The active-filler strategy in a move-eager left-corner Minimalist Grammar parser](#)
Workshop on Cognitive Modeling and Computational Linguistics
 Tim Hunter, **Miloš Stanojević** and Edward Stabler
- CogACLL 2018** [A Sound and Complete Left-Corner Parsing for Minimalist Grammars](#)
Workshop on Cognitive Aspects of Computational Language Learning and Processing
Miloš Stanojević and Edward Stabler
- PROPOR 2018** [SICK-BR: a Portuguese corpus for inference](#)
International Conference on Computational Processing of the Portuguese Language
 Livy Real, Ana Rodrigues, Andressa Vieira e Silva, Beatriz Albiero, Bruna Thalenberg, Bruno Guide, Cindy Silva, Guilherme de Oliveira Lima, Igor CS Câmara, **Miloš Stanojević**, Rodrigo Souza, Valeria de Paiva
- PhD Thesis 2017** [Permutation Forests for Modeling Word Order in Machine Translation](#)
University of Amsterdam 2017
Miloš Stanojević
- EMNLP 2017** [Neural Discontinuous Constituency Parsing](#)
Conference on Empirical Methods in Natural Language Processing
Miloš Stanojević and Raquel G. Alhama
- ACL 2017 short paper** [Alternative Objective Functions for Training MT Evaluation Metrics](#)
Annual Meeting of the Association for Computational Linguistics
Miloš Stanojević and Khalil Sima'an

- LACL 2016** [Minimalist Grammar Transition-Based Parsing](#)
Logical Aspects of Computational Linguistics
Miloš Stanojević
- COLING 2016** [Hierarchical Permutation Complexity for Word Order Evaluation](#)
International Conference on Computational Linguistics
Miloš Stanojević and Khalil Sima'an
- COLING 2016** [Universal Reordering via Linguistic Typology](#)
International Conference on Computational Linguistics
Joachim Daiber, **Miloš Stanojević** and Khalil Sima'an
- WMT 2016** [Examining the Relationship between Preordering and Word Order Freedom in Machine Translation](#)
Conference on Machine Translation
Joachim Daiber, **Miloš Stanojević**, Wilker Aziz and Khalil Sima'an
- WMT 2016** [Results of the WMT16 Metrics Shared Task](#)
Conference on Machine Translation
Ondřej Bojar, Yvette Graham, Amir Kamran and **Miloš Stanojević**
- WMT 2016** [Results of the WMT16 Tuning Shared Task](#)
Conference on Machine Translation
Bushra Jawaid, Amir Kamran, **Miloš Stanojević** and Ondřej Bojar
- EMNLP 2015** [Reordering Grammar Induction](#)
Conference on Empirical Methods in Natural Language Processing
Miloš Stanojević and Khalil Sima'an
- PBML 2015** [Evaluating MT systems with BEER](#)
The Prague Bulletin of Mathematical Linguistics
Miloš Stanojević and Khalil Sima'an
- WMT 2015** [BEER 1.1: ILLC UvA submission to metrics and tuning task](#)
Workshop on Machine Translation
Miloš Stanojević and Khalil Sima'an
- WMT 2015** [Results of the WMT15 Metrics Shared Task](#)
Workshop on Machine Translation
Miloš Stanojević, Amir Kamran, Philipp Koehn and Ondřej Bojar
- WMT 2015** [Results of the WMT15 Tuning Shared Task](#)
Workshop on Machine Translation
Miloš Stanojević, Amir Kamran and Ondřej Bojar

SSST 2014	<u>Evaluating Word Order Recursively over Permutation-Forests</u> <i>Workshop on Syntax, Semantics and Structure in Statistical Translation</i> Miloš Stanojević and Khalil Sima'an
WMT 2014	<u>BEER: BEtter Evaluation as Ranking</u> <i>Workshop on Machine Translation</i> Miloš Stanojević and Khalil Sima'an
EMNLP 2014 short paper	<u>Fitting Sentence Level Translation Evaluation with Many Dense Features</u> <i>Conference on Empirical Methods in Natural Language Processing</i> Miloš Stanojević and Khalil Sima'an
WMT 2012	<u>Selecting data for English-to-Czech machine translation</u> <i>Workshop on Machine Translation</i> Aleš Tamchyna, Petra Galuščáková, Amir Kamran, Miloš Stanojević , Ondřej Bojar

CONTRIBUTIONS TO COMMUNITY

Reviewing for conferences: ACL, NAACL, EMNLP, CoNLL, AAAI

Reviewing for journals: CL, NLE, LREC, MT, LM

Organizing shared tasks: WMT Metrics and WMT Tuning tasks in 2015 and 2016

SUPERVISION

2021 <i>University of Edinburgh</i> <i>MSc thesis</i> <i>main supervisor</i>	Seth Aycock Target-side CCG Supertag Prediction Improves Machine Translation
2019 <i>University of Edinburgh</i> <i>BSc project</i> <i>main supervisor</i>	Chiehmin Wei – accepted for PhD studies at Cornell Zero-Shot and Universal Parsing with Multilingual Contextualized Embeddings
2018 – 2019 <i>University of Edinburgh</i> <i>PhD thesis</i> <i>co-supervised</i>	John Torr – accepted at Apple Research, Cambridge Wide-Coverage Statistical Parsing with Minimalist Grammars

TEACHING

2012/2013 summer TA **Statistical Structure in NLP**



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University of Amsterdam

2013/2014 winter

TA **Elements of Language Processing**

University of Amsterdam

2014/2015 summer

TA project course on **Monte Carlo Inference for PCFG**

University of Amsterdam

2015/2016 summer

TA **Natural Language Processing 2**

University of Amsterdam

2016/2017 summer

TA **Natural Language Processing 2**

University of Amsterdam

INVITED TALKS

Mathematics of Language
Montpellier, 2021

CCG Combinators in Incremental Processing, Brain Activity and Linguistic Universals

DeepMind
London, 2021

Integrating Deep Learning with Deep Syntax

Nuance NL & AI lab
Sunnyvale, 2017

Learning Reordering Grammars

Rich Parsing Workshop
Amsterdam, 2016

Minimalist Grammar Transition-Based Parsing

MT Marathon
Prague, 2015

Discriminative Training for Statistical Machine Translation

SCHOLARSHIPS

2010 - 2012

Erasmus Mundus scholarship

2004 - 2010

Scholarship from the Ministry of Science and Technological Development of Serbia

awarded for taking part in international mathematical competitions

2002 - 2004

Scholarship from the Ministry of Education of Serbia

awarded for taking part in international mathematical competition
