MILOŠ STANOJEVIĆ

LECTURER (~ASSISTANT PROFESSOR) AT UCL
SENIOR RESEARCH SCIENTIST AT GOOGLE DEEPMIND

RESEARCH INTERESTS

- Linguistics: Language Universals, Syntactic Formalisms and Incremental Parsing
- Learning: Neural Latent Variable Models and Probabilistic Inference over Structures
- Applications: Machine Translation, Sign Language Generation and LLMs in general

WORK EXPERIENCE

Sep 2024 – now	**Lecturer (~Assistant Professor) in Computational Linguistics** *University College London* Linguistics Department, London, UK
Nov 2021 – now	**Senior Research Scientist** *Google DeepMind* Language Team, London, UK
Nov 2017 – Oct 2021	**PostDoc / Research Associate** *University of Edinburgh* School of Informatics, Edinburgh, UK
July 2017 – Oct 2017	**Internship** *Nuance Communications (now part of Microsoft)* Natural Language and AI group, Sunnyvale, US

EDUCATION

2013 – 2017	**Ph.D. Natural Language Processing** *University of Amsterdam, Netherlands*
2011 – 2013	**Mgr. Mathematical Linguistics** *Charles University in Prague, Czechia*
2010 – 2011	**M.Sc. Human Language Science and Technology** *University of Malta, Malta*
2006 – 2010	**B.Sc. Electrical Engineering** *University of Niš, Serbia*

ACL 2024	**Multipath parsing in the brain**
	Annual Meeting of the Association for Computational Linguistics
	Berta Franzluebbers, Donald Dunagan, **Miloš Stanojević**, Jan Buys, John Hale
CMCL 2024 ** best paper award*	**How can large language models become more human?**
	Workshop on Cognitive Modeling and Computational Linguistics
	Daphne Wang, Mehrnoosh Sadrzadeh, Miloš Stanojević, Wing-Yee Chow, Richard Breheny
EMNLP System Demo 2023	**SynJax: Structured Probability Distributions for JAX**
	Empirical Methods in Natural Language Processing System Demonstration
	Miloš Stanojević and Laurent Sartran
Cognitive Science *journal* **2023**	**Modeling structure-building in the brain with CCG parsing and large language models**
	Cognitive Science — journal
	Miloš Stanojević, Jonathan Brennan**,** Donald Dunagan, Mark Steedman, John Hale
Neurobiology of Language *journal* **2023**	**Neural correlates of long-distance dependencies in Chinese and English**
	Neurobiology of Language — journal
	Donald Dunagan, **Miloš Stanojević**, Maximin Coavoux, Shulin Zhang, Shohini Bhattasali, Jixing Li, Jonathan Brennan, John Hale
EMNLP 2022	**Unbiased and Efficient Sampling of Dependency Trees**
	Conference on Empirical Methods in Natural Language Processing
	Miloš Stanojević
TACL *journal* **2022**	**Transformer Grammars: Augmenting Transformer Language Models with Syntactic Inductive Biases at Scale**
	Transactions of the Association for Computational Linguistics — journal
	Laurent Sartran, Samuel Barrett, Adhiguna Kuncoro, **Miloš Stanojević**, Phil Blunsom, Chris Dyer
Computational Linguistics *journal* **2021**	**Formal Basis of a Language Universal**
	Computational Linguistics — journal
	Miloš Stanojević and Mark Steedman
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

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 Categorial Grammar**
Workshop on Cognitive Modeling and Computational Linguistics
Miloš Stanojević, Shohini Bhattasali, 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	**[Evaluating Word Order Recursively over Permutation-Forests](#)** *Workshop on Syntax, Semantics and Structure in Statistical Translation* **Miloš Stanojević** and Khalil Sima'an
WMT 2014	**[BEER: BEtter Evaluation as Ranking](#)** *Workshop on Machine Translation* **Miloš Stanojević** and Khalil Sima'an
EMNLP 2014 short paper	**[Fitting Sentence Level Translation Evaluation with Many Dense Features](#)** *Conference on Empirical Methods in Natural Language Processing* **Miloš Stanojević** and Khalil Sima'an
WMT 2012	**[Selecting data for English-to-Czech machine translation](#)** *Workshop on Machine Translation* Aleš Tamchyna, Petra Galuščáková, Amir Kamran, **Miloš Stanojević**, Ondřej Bojar

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Contributions to the community

Reviewing for conferences:	ARR, ACL, NAACL, EMNLP, EACL, CoNLL, AAAI
Reviewing for journals:	TACL, CL, NLE, LREC, MT, LM
Organizing shared tasks:	Workshop on Machine Translation - Metrics task in 2015 and 2016
	Workshop on Machine Translation - Tuning task in 2015 and 2016

Supervision and Mentorship

2022
DeepMind
scholar mentor

Mukhtar Mohamed – now MSc student at University of Edinburgh
Part of DeepMind's scholars programme.

2021
University of Edinburgh
MSc thesis
main supervisor

Seth Aycock – now PhD student at University of Amsterdam
Target-side CCG Supertag Prediction Improves Machine Translation

2019
University of Edinburgh
BSc project
main supervisor

Chiehmin Wei – now MSc student at Cornell
Zero-Shot and Universal Parsing with Multilingual Contextualized Embeddings

2018 – 2019
University of Edinburgh
PhD thesis
co-supervisor

John Torr – now RS at Apple Research, Cambridge
Wide-Coverage Statistical Parsing with Minimalist Grammars

Teaching

2012/2013 summer *University of Amsterdam*	TA **Statistical Structure in NLP**
2013/2014 winter *University of Amsterdam*	TA **Elements of Language Processing**
2014/2015 summer *University of Amsterdam*	TA project course on **Monte Carlo Inference for PCFG**
2015/2016 summer *University of Amsterdam*	TA **Natural Language Processing 2**
2016/2017 summer *University of Amsterdam*	TA **Natural Language Processing 2**

INVITED TALKS

University of Amsterdam *Netherlands, 2023*	**Syntactic Structures and Large Language Models**
University of Cambridge *Cambridge, UK, 2023*	**The role of syntax in the world of large language models**
UCL *London, UK, 2023*	**What is the relation of Syntactic Parsing, Language Universals, Brain Activity and Large Language Models?**
ETH Zürich Zürich, Switzerland, 2022	**Testing Syntactic Theory on all Marr's Levels of Analysis**
Mathematics of Language Montpellier, France, 2021	**CCG Combinators in Brain Activity and Linguistic Universals**
DeepMind London, UK, 2021	**Integrating Deep Learning with Deep Syntax**
Nuance NL & AI lab Sunnyvale, USA, 2017	**Learning Reordering Grammars**
Rich Parsing Workshop Amsterdam, 2016	**Minimalist Grammar Transition-Based Parsing**
MT Marathon Prague, Czechia, 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