

# Serhii Havrylov

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<b>Current location</b>	Edinburgh, UK	<b>Github</b>	<a href="https://github.com/serhii-havrylov">github.com/serhii-havrylov</a>
<b>E-mail</b>	<a href="mailto:sergii.gavrylov@gmail.com">sergii.gavrylov@gmail.com</a>	<b>Linkedin</b>	<a href="https://linkedin.com/serhii-havrylov">linkedin.com/serhii-havrylov</a>
<b>Website</b>	<a href="https://serhii-havrylov.github.io">serhii-havrylov.github.io</a>		

## Education

**Oct 2017 –** PhD student – Institute for Language, Cognition and Computation, University of Edinburgh

**Mar 2016 – Sep 2017** PhD candidate – Institute for Logic, Language, and Computation, University of Amsterdam

**2012 – 2014** MSc in Applied Mathematics – National Technical University of Ukraine  
*Diploma with honours*

**2008 – 2012** BSc in Applied Mathematics – National Technical University of Ukraine  
*Diploma with honours*

## Work experience

**Jun 2020 - Sep 2020** [Google](#)  
*Research SWE intern*  
Prototyping a model for eliciting user preferences via polar question generation.

**Jun 2018 - Sep 2018** [Facebook AI Research](#)  
*Research Intern (AI)*  
During the internship, a novel model for learning latent tree parsers had been developed. The results are published at NAACL-HLT 2019.

**Oct 2013 - Apr 2016** [Grammarly](#)  
*Research engineer*  
Researching, prototyping and implementing machine learning algorithms for improving the accuracy of Grammarly's language core.

**May 2013 - Oct 2013** [Silver Cup](#)  
*Quantitative analyst*  
Applying machine learning techniques for development and improvement trading strategies.

## Publications

Havrylov, S., Titov, I. Preventing Posterior Collapse with Levenshtein Variational Autoencoder. // [preprint](#)

Hu, Z., Havrylov, S., Titov, I., Cohen, S. Obfuscation for Privacy-preserving Syntactic Parsing. // [IWPT 2020](#)

Guo, S., Ren, Y., Havrylov, S., Frank, S., Titov, I., Smith, K. The Emergence of Compositional Languages for Numeric Concepts Through Iterated Learning in Neural Agents. // [EmeCom NeurIPS 2019 Workshop](#)

Havrylov, S., Kruszewski, G., Joulin, A. Cooperative Learning of Disjoint Syntax and Semantics. // [NAACL-HLT 2019 \(Oral presentation\)](#)

Bražinskas, A., Havrylov, S., Titov, I. Embedding Words as Distributions with a Bayesian Skip-gram Model. // [Bayesian Deep Learning NIPS 2016 Workshop](#) and [COLING2018 \(Oral presentation\)](#)

*Havrylov, S., Titov, I.* Emergence of Language with Multi-agent Games: Learning to Communicate with Sequences of Symbols. // [ICLR2017 Workshop track](#) and [NIPS2017](#)

*Gavrylov S.V.* Classifying motion capture sequences using recurrent neural networks // [SAIT 2014](#): System analysis and information technologies, Kyiv, Ukraine

*Gavrylov S.V., Drobyshch Y.P.* Human motion recognition using recurrent neural networks with fast dropout regularization // IAI 2014: XIV International Conference "Intelligent analysis of information", Kyiv, Ukraine

## Volunteering, teaching

Reviewer: *NAACL-HLT 2019*, Machine Learning for NLP area.

*NeurIPS 2019* (a top 50% ranking reviewer).

*ICML 2020* (a top 33% ranking reviewer).

*EMNLP 2020* (Machine Learning for NLP area).

*NeurIPS 2020*.

Lviv Data Science Summer School [2018](#) and [2019](#): lectures on [Discrete Computation Graphs](#)

Natural Language Processing 1, University of Amsterdam, Teacher Assistant, Fall term 2016

Summer school "[AACIMP-2015](#)": Theano [tutorial](#), lectures on convolutional neural networks and neural language models, project supervisor

Co-organizer and speaker at Kyiv deep learning [study group](#)

## Projects

Unsupervised constituency parse tree learning for NLP [[code](#), [slides](#)]

Quagga – CUDA/Python library that allows multi-GPU utilization by exploiting model parallelism for deep learning architectures [[code](#), [documentation](#)]

Project reproduces the model from [Show and Tell: A Neural Image Caption Generator](#) [[code](#)]

Financial coding of school's budgets and expenditures (5<sup>th</sup> /50, [drivendata](#)) [[code](#), [slides](#)]

Applying recurrent neural networks with fast dropout regularization for modeling and classification of human motion (Master's thesis)

[Classification of Psychiatric Problems Based on Saccades](#) (2<sup>nd</sup> award in IJCNN 2012 Competition: International Joint Conference on Neural Networks, Brisbane, Australia)

Development of dynamical visibility algorithm for time series analysis via complex networks, and its application for heart disease classification (Bachelor's thesis)

## Completed Trainings and Online Courses

Probabilistic Graphical Models, Stanford University

Machine Learning, Stanford University

Networked life, University of Pennsylvania

Learning from data, Caltech

## Key Skills

### Technical skills

Python with data science stack: NumPy, SciPy, Pandas, scikit-learn, PyTorch, TensorFlow, Keras  
CUDA C/C++, Java SE, R, MatLab

### Languages

English - full professional proficiency  
Ukrainian, Russian - native  
Italian - elementary level