

# Maria Ryskina

---

Carnegie Mellon University  
School of Computer Science  
Language Technologies Institute  
5000 Forbes Ave, Pittsburgh, PA 15213

[mryskina@cs.cmu.edu](mailto:mryskina@cs.cmu.edu)  
<http://www.cs.cmu.edu/~mryskina/>

## EDUCATION

---

### **Carnegie Mellon University, USA**

*Ph.D. student, Language and Information Technologies*

2016 – present

Advisors: Matthew R. Gormley, Eduard Hovy, Taylor Berg-Kirkpatrick

### **Skolkovo Institute of Science and Technology, Russia**

*M.Sc., Information Technology, with honors*

2014 – 2016

### **Moscow Institute of Physics and Technology, Russia**

Department of Control and Applied Mathematics

*M.Sc., Applied Mathematics and Physics, with honors*

2014 – 2016

*B.Sc., Applied Mathematics and Physics, with honors*

2010 – 2014

## RESEARCH

---

### **Carnegie Mellon University**

2016 – present

*Graduate Research Assistant*

*Pittsburgh, PA*

- My research focuses on building computational models of non-standard orthographic, morphological, and lexical choices in written language, both as user-specific idiosyncrasies and through the lens of large-scale language change.

Advisors: Matthew R. Gormley, Eduard Hovy, Taylor Berg-Kirkpatrick

### **Massachusetts Institute of Technology**

Sep 2015 – Jan 2016

*Visiting Graduate Student, CSAIL Infolab*

*Cambridge, MA*

- Master's thesis project: detecting paraphrases by sampling visual representations of sentences from a video description model and evaluating similarity between them.

Mentors: Boris Katz, Andrei Barbu

### **Moscow Institute of Science and Technology**

2013 – 2014

*Undergraduate Student, Intelligent Systems Subdept.*

*Moscow, Russia*

- Bachelor thesis project: increasing interpretability and stability of topic models by adding a human-informed regularizer.

Advisor: Konstantin Vorontsov

## WORK EXPERIENCE

---

### **DiDi Labs, [www.didi-labs.com](http://www.didi-labs.com)**

May 2020 – Aug 2020

*Research Intern*

*Remote*

- Used reinforcement learning to train task-oriented dialog agents in a self-play setting.

Mentor: Kevin Knight

### **Anti-Plagiat JSC, [www.antiplagiat.ru](http://www.antiplagiat.ru)**

Jun 2015 – Aug 2015

*Research Intern*

*Moscow, Russia*

- Designed evaluation methods to measure topic search quality in the Russian State Library archives.

## AWARDS AND HONORS

---

<b>Diverse Intelligences Summer Institute Fellowship</b> <i>Templeton World Charity Foundation</i>	2021
<b>Skoltech Academic Excellence Award</b> , Russia <i>Awarded to students graduating with 4.0 GPA</i>	2016
<b>State Academic Scholarship</b> for research achievements, Russia	2013 – 2014
<b>Abramov-Frolov Scholarship</b> for academic excellence, Russia <i>Charitable Foundation for the Development of Innovation Education</i>	2010 – 2012

## SELECTED COURSEWORK

---

### Carnegie Mellon University

Machine Learning (10-701) ◊ Algorithms for Natural Language Processing (11-711) ◊ Advanced Multimodal Machine Learning (11-777) ◊ Probabilistic Graphical Models (10-708) ◊ Grammars and Lexicons (11-721) ◊ Neural Networks for NLP (11-747) ◊ Structured Prediction for Language and other Discrete Data (11-763)

### Skolkovo Institute of Science and Technology

Optimization Methods ◊ Representation and Deep Learning ◊ Bayesian Methods ◊ Data Mining

### Moscow Institute of Physics and Technology

Mathematical Analysis ◊ Linear Algebra ◊ Discrete Mathematics ◊ Functional Analysis ◊ Differential Equations ◊ Optimization Methods (theory) ◊ Algorithms and Models of Computation ◊ Probability Theory ◊ Mathematical Statistics ◊ Applied Statistics ◊ Machine Learning (theory)

### Online

Statistical Learning (Stanford)

## LANGUAGES AND SKILLS

---

English (fluent), Russian (native)

Python, Java, C++, MATLAB

## PUBLICATIONS

---

### [Comparative Error Analysis in Neural and Finite-state Models for Unsupervised Character-level Transduction](#)

M. Ryskina, E. Hovy, T. Berg-Kirkpatrick, M. Gormley

*SIGMORPHON Workshop on Computational Research in Phonetics, Phonology, and Morphology*, 2021.

### [NoiseQA: Challenge Set Evaluation for User-Centric Question Answering](#)

A. Ravichander, S. Dalmia, M. Ryskina, F. Metze, E. Hovy, A. Black

*Conference of the European Chapter of the Association for Computational Linguistics (EACL)*, 2021.

### Phonetic and Visual Priors for Decipherment of Informal Romanization

M. Ryskina, M. Gormley, T. Berg-Kirkpatrick

*Annual Meeting of the Association for Computational Linguistics (ACL)*, 2020.

### Where New Words Are Born: Distributional Semantic Analysis of Neologisms and Their Semantic Neighborhoods

M. Ryskina, E. Rabinovich, T. Berg-Kirkpatrick, D. Mortensen, Y. Tsvetkov

*Annual Meeting of the Society for Computation in Linguistics (SCiL)*, 2020.

### OPERA: Operations-oriented Probabilistic Extraction, Reasoning, and Analysis (2019 system report)

E. Hovy, J. Carbonell, H. Chalupsky, A. Gershman, A. Hauptmann, F. Metze, T. Mitamura, Z. Sheikh, A. Dangi, A. Chaudhary, X. Chen, X. Kong, B. Huang, S. Medina, H. Liu, X. Ma, M. Ryskina, R. Sanabria, V. Gangal

*Text Analysis Conference (TAC)*, 2019.

### OPERA: Operations-oriented Probabilistic Extraction, Reasoning, and Analysis (2018 system report)

E. Hovy, T. Berg-Kirkpatrick, J. Carbonell, H. Chalupsky, A. Gershman, A. Hauptmann, F. Metze, T. Mitamura, A. Chaudhary, X. Chen, B. Huang, H. Liu, X. Ma, S. Palaskar, D. Rajagopal, M. Ryskina, R. Sanabria

*Text Analysis Conference (TAC)*, 2018.

### Automatic Compositor Attribution in the First Folio of Shakespeare

M. Ryskina, H. Alpert-Abrams, D. Garrette, T. Berg-Kirkpatrick

*Annual Meeting of the Association for Computational Linguistics (ACL)*, 2017.

## INVITED TALKS

---

### Unsupervised Decipherment of Informal Romanization

Jun 2021

*NLPhD Speaker Series, Saarland University*

### Informal Romanization across Languages and Scripts

Jun 2021

*SIGTYP Lecture Series*

## TEACHING

---

CMU 11-711: Algorithms for NLP. TA for Taylor Berg-Kirkpatrick

Fall 2017

CMU 11-711: Algorithms for NLP. Guest lecturer and TA for Yulia Tsvetkov

Fall 2018

## SERVICE

---

### Organizing:

- SIGMORPHON 2021 Shared Task 0: Generalization in Morphological Inflection Generation

### Reviewing:

- Journals: Cognitive Science (2021), Review of General Psychology (2021)
- Conferences: ACL (2021), EMNLP (2021), CoNLL (2020–2021)
- Workshops: \*CL SRW (2020–2021), NeurIPS HAMLETS (2020)
- Secondary reviewing: EACL (2021), EMNLP (2018, 2020)

### Volunteering and mentoring:

- oSTEM/Queer in AI Graduate School Application Review and Fee Aid Program (2021)
- CMU AI Mentoring Program for undergraduates from underrepresented groups (Spring 2020)
- CMU SCS Graduate Application Support Program for applicants from underrepresented groups (2020)