Maria Ryskina

Massachusetts Institute of Technology
McGovern Institute for Brain Research
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Academic Positions

Massachusetts Institute of Technology — Cambridge, MA
Postdoctoral Associate, McGovern Institute for Brain Research — 2022 – present
· Advisors: Evelina Fedorenko, Kyle Mahowald

Education

Carnegie Mellon University — Pittsburgh, PA
Ph.D., Language and Information Technologies — 2016 – 2022
· Dissertation: Learning Computational Models of Non-Standard Language.
· Advisors: Matthew R. Gormley, Eduard Hovy, Taylor Berg-Kirkpatrick

Massachusetts Institute of Technology — Cambridge, MA
Visiting Graduate Student, CSAIL Infolab — Sep 2015 – Jan 2016

Skolkovo Institute of Science and Technology — Moscow, Russia
M.Sc., Information Technology, with honors — 2014 – 2016

Moscow Institute of Physics and Technology — Moscow, Russia
M.Sc., Applied Mathematics and Physics, with honors — 2014 – 2016
B.Sc., Applied Mathematics and Physics, with honors — 2010 – 2014

Industry Employment

DiDi Labs www.didiglobal.com/science/ailabs — Los Angeles, CA / Remote
Reseacrch Intern — May 2020 – Aug 2020
· Reinforcement learning for training task-oriented dialog agents in a self-play setting.
· Probing integer embeddings learned from mathematical data for number-theoretic knowledge.
· Mentor: Kevin Knight

JSC Antiplagiat www.antiplagiat.ru — Moscow, Russia
Reseacrch Intern — Jun 2015 – Aug 2015
· Evaluating topic modeling-based corpus search methods for plagiarism detection.

Awards and Honors

Diverse Intelligences Summer Institute Fellowship — 2021
Templeton World Charity Foundation

Skoltech Academic Excellence Award, Russia — 2016

State Academic Scholarship, Russia 2013 – 2014

Foundation for the Development of Innovative Education Scholarship, Russia 2010 – 2012

Publications

* denotes equal contrubution

Conference and Workshop Papers

UniMorph 4.0: Universal Morphology
K. Batsuren*, O. Goldman* *et al.*, including **M. Ryskina**
Language Resources and Evaluation Conference (LREC), 2022.

Learning Mathematical Properties of Integers
M. Ryskina, K. Knight
BlackboxNLP Workshop on Analyzing and Interpreting Neural Networks for NLP, 2021.

SIGMORPHON 2021 Shared Task on Morphological Reinflection: Generalization Across Languages
T. Pimentel*, **M. Ryskina*** *et al.*
SIGMORPHON Workshop on Computational Research in Phonetics, Phonology, and Morphology, 2021.

Comparative Error Analysis in Neural and Finite-state Models for Unsupervised Character-level Transduction
M. Ryskina, E. Hovy, T. Berg-Kirkpatrick, M. R. 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. W. 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. R. 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. R. Mortensen, Y. Tsvetkov
Annual Meeting of the Society for Computation in Linguistics (SCiL), 2020.

OPERA: Operations-oriented Probabilistic Extraction, Reasoning, and Analysis (2019)
E. Hovy *et al.*, including **M. Ryskina**
Text Analysis Conference (TAC), 2019.

OPERA: Operations-oriented Probabilistic Extraction, Reasoning, and Analysis (2018)
E. Hovy *et al.*, including **M. Ryskina**
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.

Theses

Learning Computational Models of Non-Standard Language
M. Ryskina
Ph.D. dissertation, Carnegie Mellon University, 2022.

Other Publications

State-of-the-art generalisation research in NLP: a taxonomy and review
D. Hupkes *et al.*, including **M. Ryskina**
Preprint, 2022.

Two Approaches to Building Collaborative, Task-Oriented Dialog Agents through Self-Play
A. Arkhangorodsky, S. Fang, V. Knight, A. Nagesh, **M. Ryskina**, K. Knight
Preprint, 2021.

Number embedding application system
K. Knight, **M. Ryskina**
US Patent 11,460,982, 2022.

Self-play to improve task-oriented dialog systems and methods
K. Knight, **M. Ryskina**, A. Arkhangorodsky, A. Nagesh, S. Fang
US Patent Application 17/104,137, 2022.

Queer in AI
Organizers of Queer in AI, including **M. Ryskina**
XRDS: Crossroads, The ACM Magazine for Students, 28(4), 2022.

Invited Talks

Learning Computational Models of Non-Standard Language — Feb – Mar 2022
LCC Lab, University of Toronto
EvLab, Massachusetts Institute of Technology
CLunch Seminar Series, University of Pennsylvania
MCQLL Lab, McGill University

Romanization with Friends: Deciphering Informally Romanized Text — Nov 2021
NLP With Friends Seminar Series

Unsupervised Decipherment of Informal Romanization — Jun 2021
NLPhD Speaker Series, Saarland University

Informal Romanization across Languages and Scripts — Jun 2021
SIGTYP Lecture Series

Teaching

TA and Guest lecturer for CMU 11-711: Algorithms for NLP. Instructor: Yulia Tsvetkov. Fall 2018
TA for CMU 11-711: Algorithms for NLP. Instructor: Taylor Berg-Kirkpatrick. Fall 2017

Service

Organizing and professional service:

- Co-organizer for the Queer in AI workshop at NAACL 2022
- Technical advisory group member for OpenITI Arabic-script OCR Catalyst Project, 2022
- Co-organizer for SIGMORPHON Shared Task 0: Generalization in Morphological Inflection Generation, 2021
- Co-host for SIGTYP Lecture Series, 2021

Reviewing:

- Journals: Cognitive Science (2021), Review of General Psychology (2021)
- Conferences: EACL (2023), ACL Rolling Review (2021–2022), EMNLP (2021–2022), ACL (2021), CoNLL (2020–2021); as secondary reviewer: EACL (2021), EMNLP (2018, 2020)
- Workshops: Queer in AI (NAACL 2022), SRW (ACL 2020–2021, NAACL 2021, AACL 2020), HAMLETS (NeurIPS 2020)

Volunteering and community service:

- Co-organizer for oSTEM/Queer in AI Graduate School Application Review and Fee Aid Programs, 2021–2023
- Student reviewer for CMU LTI Graduate Admissions, 2021
- Mentor for CMU SCS Graduate Application Support Program, 2020–2021
- Mentor for CMU LTI Peer Mentoring Program for new graduate students, 2021
- Mentor for CMU AI Mentoring Program for undergraduates from underrepresented groups, 2020