

# Radina Dobрева

PhD student in Natural Language Processing

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Research interests: NLP, language grounding in vision, multilinguality

## Education

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### PhD in Natural Language Processing

September 2020 - Present

University of Edinburgh

- Supervisors: Dr Alexandra Birch and Prof Frank Keller
- My research interests include language grounding in vision, interpretability of NLP models and multilinguality.
- Member of the *Centre for Doctoral Training in Natural Language Processing* and the *Institute for Language, Cognition and Computation*.

### MSc Speech and Language Processing, with Distinction

September 2018 - August 2019

University of Edinburgh

- A programme combining computer science, machine learning and linguistics.
- MSc Project: Exploiting Predictable Document Sub-structure in Neural Machine Translation (NMT)
  - Supervisors: Dr Rachel Bawden, Prof Bonnie Webber, Dr Annie Louis
  - A project focusing on using the structure of documents to improve translation. As part of this project I compiled a corpus of parallel data, researched possible ways to incorporate structural information, implemented the selected method, conducted experiments to evaluate the proposed models, and analysed and reported the results.

### BA(Hons) Linguistics, First class degree

September 2015 - June 2018

University of Manchester

- A broad programme covering both theoretical and applied aspects of linguistics, such as semantics, syntax, historical linguistics and forensic linguistics, among others.
- Undergraduate dissertation: The Causative Alternation in Bulgarian
  - Supervisor: Prof Delia Bentley
- Study abroad: *National University of Singapore*, January 2017 - May 2017

## Employment

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### Research Software Engineer

April 2020 - August 2020

University of Edinburgh

- Worked on projects focusing on machine translation.
- Responsibilities included building machine translation models using Marian NMT and packaging them for use by the project partners.

### Research Assistant

October 2019 - March 2020

University of Edinburgh

- Worked on a project focusing on low-resource machine translation in the news domain (GoURMET).
- Responsibilities included gathering parallel data for machine translation, creating machine translation models and packaging them for use by the project partners.

## Skills

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**Programming languages** Python, Bash

**Tools and packages** PyTorch, Numpy, Marian NMT, Docker, Git, Latex

**Natural languages** English (fluent), Bulgarian (native)

## Awards and achievements

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- The School of Philosophy, Psychology and Language Sciences Highly Commended Dissertation Award**, for my dissertation submitted for the MSc Speech and Language Processing degree — *University of Edinburgh* 2019
- Outstanding Academic Achievement Award**, awarded to the top 0.5% undergraduate students graduating from the university — *University of Manchester* 2018
- Montfollick prize**, for highest final year mark in the subject area of Linguistics and English Language in academic year 2017/18 — *University of Manchester* 2018
- Stella Brook Prize**, for highest mark in first-year exams — *University of Manchester* 2016
- Bronze medal**, 13th International Olympiad in Linguistics 2015 — *Blagoevgrad, Bulgaria* 2015

## Additional training

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- 11th Lisbon Machine Learning School – LxMLS 2021**, summer school — *Lisbon, Portugal (Online)* 2021

## Publications

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Ulrich Germann, Roman Grundkiewicz, Martin Popel, **Radina Dobрева**, Nikolay Bogoychev, and Kenneth Heafield. Speed-optimized, Compact Student Models that Distill Knowledge from a Larger Teacher Model: the UEDIN-CUNI Submission to the WMT 2020 News Translation Task. In *Proceedings of the Fifth Conference on Machine Translation*, pages 191–196, Online, November 2020. Association for Computational Linguistics

Rachel Bawden, Alexandra Birch, **Radina Dobрева**, Arturo Oncevay, Antonio Valerio Miceli Barone, and Philip Williams. The University of Edinburgh’s English-Tamil and English-Inuktitut Submissions to the WMT20 News Translation Task. In *Proceedings of the Fifth Conference on Machine Translation*, pages 92–99, Online, November 2020. Association for Computational Linguistics

**Radina Dobрева**, Jie Zhou, and Rachel Bawden. Document Sub-structure in Neural Machine Translation. In *Proceedings of the 12th Language Resources and Evaluation Conference*, pages 3657–3667, Marseille, France, May 2020. European Language Resources Association