# Daria Kryvosheieva

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### Education

#### Massachusetts Institute of Technology

Candidate for B.S. in Artificial Intelligence and Decision Making & Linguistics

2023/09 - present

GPA: 5.0/5.0

Relevant Coursework: Fundamentals of Programming, Mathematics for Computer Science, Introduction to Low-Level Programming in C and Assembly, Machine Learning for Molecular Design, Language Acquisition

## Experience

#### Undergraduate Researcher, MIT Computational Psycholinguistics Laboratory

2024/01 - present

Working with Prof. Roger Levy on the evaluation and improvement of multilingual LLMs' understanding of grammar. Preparing a first-author paper for NAACL 2025.

- Ran controlled morphosyntactic evaluations on multilingual LLMs, focusing on low-resource languages and morphosyntactic phenomena absent in English
- Recruited native speakers via Prolific to validate evaluation datasets
- Used distributed alignment search to identify model layers responsible for linguistic knowledge
- Finetuned multilingual BERT on Hindi data, resulting in a 43.4-50.4% increase in accuracy on choice of verb aspect tasks

## **Projects**

Descry OCR (github.com/dariakryvosheieva/descry-ocr| PyTorch, Flask)

2024/08

A text recognition engine for low-resource writing systems. Uses CRAFT to detect words on an image and CRNN to recognize individual words.

Tone.me (github.com/tone-me/tone-me | Hugging Face, Next.js)

2023/10 - 2023/12

A web app that helps learners of Mandarin Chinese improve their pronunciation of tones. Uses Wav2Vec2 to classify audio recordings of Chinese syllables by tone. Team project for the MIT AIM Labs Fall 2023 program.

#### Volunteering

## Linguistics Olympiads Problem Committee Member

• Ukrainian Linguistics Olympiad

2023/08 - present

Contributed two problems offered in the 2023-2024 contest season. Led training sessions for students selected to represent Ukraine at IOL 2024.

• 5<sup>th</sup> Hong Kong Linguistics Olympiad Tested and edited the problem set.

2023/02

• 3<sup>rd</sup> Online Olympiad in Linguistics

2022/10 - 2023/02

Contributed one of the four competition problems. Translated the problem set into Ukrainian, Russian, and German and graded contestants' answers in these languages. Wrote announcements for the competition's website and Facebook page.

#### Awards

Gold Medal, International Linguistics Olympiad (IOL) 2023

Result on the level of Gold Medal, Asia-Pacific Linguistics Olympiad (APLO) 2022

Gold Medal, International Linguistics Olympiad (IOL) 2021

4<sup>th</sup> place, North American Computational Linguistics Open Competition (NACLO) 2021

#### Languages

Ukrainian: native, Russian: native, English: IELTS 8.5 (2022), German: ÖSD Zertifikat C1 (2020)