

# Daria Kryvosheieva

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## Education

### Massachusetts Institute of Technology

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

September 2023 – May 2027

GPA: 5.0/5.0

*Selected Coursework:* Machine Learning (graduate), Quantitative Methods for Natural Language Processing, Linear Algebra and Optimization, Fundamentals of Programming, Mathematics for Computer Science, Introduction to Low-Level Programming in C and Assembly, Machine Learning for Molecular Design, Syntax, Language Acquisition

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## Experience

### Undergraduate Researcher, MIT Computational Psycholinguistics Laboratory

January 2024 – present

Working with Prof. Roger Levy on the evaluation and improvement of multilingual LLMs' linguistic knowledge.

Preparing a first-author paper for COLING 2025 Workshop on Language Models for Low-Resource Languages (LoResLM).

- Designed benchmarks for evaluating multilingual LLMs' knowledge of grammatical phenomena in low-resource languages (Basque, Hindi, Swahili)
  - Recruited native speakers via Prolific to confirm the validity of the benchmarks
  - Evaluated open-access multilingual LLMs and statistically analyzed results
  - Finetuned multilingual BERT to improve accuracy on Hindi verbal aspect prediction tasks, achieving 2.4x improvement
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## Projects

### Descry OCR ([github.com/dariakryvosheieva/descry-ocr](https://github.com/dariakryvosheieva/descry-ocr)) | PyTorch, Flask)

August 2024

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](https://github.com/tone-me/tone-me)) | Hugging Face, Next.js)

October 2023 – December 2023

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.

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## Volunteering

### Linguistics Olympiads Problem Committee Member

#### • *Ukrainian Linguistics Olympiad*

August 2023 – 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*

February 2023

Tested and edited the problem set.

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

October 2022 – February 2023

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.

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## Awards

Gold Medal, 20<sup>th</sup> International Linguistics Olympiad (IOL)

July 2023

Result on the level of Gold Medal, 4<sup>th</sup> Asia-Pacific Linguistics Olympiad (APLO)

April 2022

Gold Medal, 18<sup>th</sup> International Linguistics Olympiad (IOL)

July 2021

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

April 2021

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## Skills

**Natural languages:** Ukrainian (native), Russian (native), English (IELTS 8.5), German (ÖSD Zertifikat C1)

**Computer languages:** Python, Julia, C++, C, RISC-V assembly, Java, Javascript, HTML/CSS

**Frameworks & tools:** PyTorch, Tensorflow/Keras, Flask, Next.js