# Daria Kryvosheieva

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## Education

**Massachusetts Institute of Technology**
B.S. in Artificial Intelligence and Decision Making, intended double major in Linguistics — Exp. May 2027
*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

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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' understanding of grammar.

- 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 parts responsible for linguistic knowledge
- Finetuned the identified parts with low-rank adaptation

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## Projects

**Descry OCR** (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 | 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

**MIT International Orientation Mentor** — August 2024
Welcomed incoming international students on campus, offered support with academics and life in the US, and assisted with organizing and running events of the International Orientation program.

**Linguistics Olympiads Problem Committee Member**

- *Ukrainian Linguistics Olympiad* — August 2023—present
  Contributed two problems offered in the 2023/24 contest season. Led training sessions for students selected to represent Ukraine at IOL 2024.

- *Hong Kong Linguistics Olympiad ($5^{th}$ edition)* — February 2023
  Tested the problem set and proposed improvements.

- *Online Olympiad in Linguistics ($3^{rd}$ edition)* — 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

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| $2 \times$ Gold Medal, International Linguistics Olympiad (IOL) | 2023, 2021 |
| Result on the level of Gold Medal, Asia-Pacific Linguistics Olympiad (APLO) | 2022 |
| $4^{th}$ rank, North American Computational Linguistics Open Competition (NACLO) | 2021 |
| $2^{nd}$ place in B2 category, Internationale Deutscholympiade (IDO) | 2020 |

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## Skills

**Coding languages:** Python, Java, Javascript, C++, C, RISC-V assembly, HTML, CSS
**Frameworks & tools:** PyTorch, Tensorflow, Hugging Face, Flask, Next.js
**Natural languages:** Ukrainian (native), Russian (native), English (IELTS 8.5), German (ÖSD Zertifikat C1)