DANIIL YURSHEVICH

Student at EPFL (Switzerland)

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EDUCATION

M.Sc. in Theoretical Mathematics

EPFL

September 2023 – now

With a bias towards machine learning and data science.

B.Sc. in Theoretical Mathematics, GPA 4.9/5

Jagiellonian University

October 2020 – June 2023

Thesis title: Finite groups of matrices over quadratic number fields

B.Sc. in Theoretical Computer Science, GPA 4.5/5

Jagiellonian University

October 2020 – July 2023

Thesis title: Finite groups of matrices over quadratic number fields

EXPERIENCE

Algorithm Junior Researcher

Huawei

July 1, 2022 - Sept. 30, 2023 Warsaw, Poland (remote)

- Enhancing graph neural network (GNN) models for solving retrosynthesis prediction task in chemistry.
- Working on multi-camera positioning problem in the realm of computer vision

PROJECTS

Mechanistic Interpretability Research

self-study

November 2023 - now

I collaborate with a group of enthusiasts to delve into the realm of mechanistic interpretability. I started by following up Neel Nanda's "Concrete Steps to Get Started in Transformer Mechanistic Interpretability," reading recommended papers and doing practical coding exercises. Additionally, I've successfully reproduced findings from select papers using smaller models. I've also delved into sections of Jacob Hilton's curriculum, covering topics such as transformers, alignment, interpretability, and reinforcement learning. Presently, I'm focused on addressing various open challenges in the field.

Commonsense Dialogue Response Generation

EPFL

November 2023 - December 2024

I was a leader of a team of three students, including myself, under the guidance of Sillin Gao. The project included utilizing standard

SCIENCE ACTIVITIES

Finite groups of matrices over quadratic number fields

Jagiellonian University

June 2023

This is my bachelor's thesis. This work aimed to classify finite groups of matrices over an arbitrary field that will make a huge impact on understanding of a certain class of elliptic curves.

Transitive graphs

RTYM

January 2020

This work was written for the Tournament of Young Mathematics. The work is devoted to studying some properties of directed and undirected transitive graphs.

AWARDS

Rector scholarships for best students 2022-2023
I was recognized as part of the top 10 percent of math students in my graduating class.

Second prize on the International Mathematics Competition for University Students (IMC) 2023
Second prize on the most prestigious mathematical olympiad for students

First prize on the International Mathematics Competition for University Students (IMC) 2022
First prize on the most prestigious mathematical olympiad for students

Gold on the Belarussian National Olympiad in Mathematics 2020
The third absolute place and gold medal on the national olympiad in mathematics

LANGUAGES

English ●●●●●

Polish ●●●●○

Russian ●●●●●

Python libraries like Pytorch and Hugging Face package to improve the results of NLP models on generating common-sense dialogue response problems.

STRENGTHS

Mechanistic Interpretability | NLP | Machine learning | Python | Transformers | Probability and statistics | Mathematical analysis | Linear algebra | C++