Piotr Piękos

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in Piotr Piękos • ♂ piotr.piekos

Objective

Creating robust machines that can abstract their learned knowledge and use it effortlessly in new environments and situations that share a similar structure.

Education

KAUST   **PhD**
Computer Science, PhD   *09.2022-Now*
Supervised by Prof. Jürgen Schmidhuber

University of Warsaw   **Master's Degree**
Mathematics, Master   *Graduation: October 2021*
Faculty of Mathematics, Informatics and Mechanics,
Thesis was an investigation of mathematical abilities in language models. It was accepted to ACL-IJCNLP 2021 in the form of a publication.
Supervised by Mateusz Malinowski, PhD and Henryk Michalewski, PhD.

University of Warsaw   **Bachelor's Degree**
Mathematics, Bachelor   *Graduation: April 2018*
Faculty of Mathematics, Informatics and Mechanics,
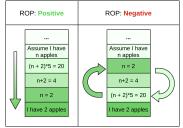**Thesis** about using residual connections in recurrent neural networks

University of Warsaw   **Bachelor's Degree**
Computer Science, Bachelor   *Graduation: September 2017*
Faculty of Mathematics, Informatics and Mechanics,
Thesis about porting OpenFace for face recognition on the phone

Main publications

Measuring and Improving BERT's Mathematical Abilities by Predicting the Order of Reasoning (ACL, oral)

This project investigates mathematical abilities in language models and proposes training on rationales as a bridge between informal natural language and formal mathematics. Additionally proposes novel losses for better utilization of the rationales. Our model is the state of the amongst model with low inductive biases and the results are comparable with hand-crafted models.

Research was done under the supervision of Mateusz Malinowski, PhD (DeepMind) and Henryk Michalewski, PhD (Google, University of Warsaw)

Conferences and workshops:
- **ACL-ICJNLP 2021 (Main Conference, oral)**
- EEML 2021 (Best poster award)
- MathAI (ICLR 2020 Workshop)
- BayLearn 2020

[Arxiv link ⬀](#)   [Project website ⬀](#)

Research Experience

Polish Academy of Sciences, AWARElab group
Researcher   *01.2022–06.2022*
Exploring methods for creating subgoals in order to solve complex reasoning tasks more efficiently than directly by predicting value or policy function.

Commercial Experience

Allegro.pl
Research engineer   *10.2021– 01.2022*
Improving the quality of search neural reranking model and researching related models.

ITMagination
Machine Learning developer   *07.2017–06.2020*
Creating machine learning models for biggest polish companies like LPP or AmRest.

Hcore
Python Developer Internship   *07.2016–09.2016*
Writing backend software in Python.

Open-source

BERT for trax | trax: Open source contribution for trax (google library for neural networks using jax) It adds BERT model and masked language modeling pipeline preparation. [Github](#) ⎘

Languages

English: Advanced (111/120 TOEFL score)
Polish: Native

Interests

Chess, Computer Games, Psychology