



Postdoc position for the National Science Centre project “Hybrid models of natural reasoning” implemented at the Institute of Mathematics of the PAS

This research project is located in the intersection of cognitive science, logic, computer science, and computational linguistics. It aims to develop and study hybrid models of natural reasoning that combine methods of logic and deep learning. In hybrid models, reasoning is ultimately based on rules of logic, but neural networks are involved in tasks such as the process of premise selection or construction of reasoning steps. We are interested in analyzing and interpreting interactions between the logical and the neural components, with emphasis on problems such as explainability for neural networks, compositionality in the context of reasoning, reasoning with background knowledge, etc.

We offer a genuinely interdisciplinary scientific environment, and oversight of the postdoc's research activities by two advisers – one specializing in logic (prof. Maciej Malicki, Institute of Mathematics of the Polish Academy of Sciences), and another one specializing in cognitive science/computational linguistics (prof. Jakub Szymanik, University of Trento). During the implementation of the project, we will cooperate with researchers from Poland, Italy and USA.

To learn more about the project, write to mmalicki@impan.pl.

Your Profile

We expect:

- PhD (defended before Aug 31th) in a field related to the project: cognitive science, computational linguistics, computer science, philosophy, etc.
- substantial research experience in methods of logic and/or machine learning
- passion for interdisciplinary research
- ability to work in a team, and assist in supervising a PhD student
- good command of English (oral and written)

Start of work

September 1st, 2023

Remuneration

A salary of appr. 6500 PLN (appr. 8400 PLN gross) will be paid for 12 months.

Application Procedure

For full consideration, send your application to mmalicki@impan.pl by May 15th, 2023. It should include a statement, a detailed description of your research interests, experience, and achievements, including a list of publications, as well the names, addresses, and e-mail addresses of at least two references. Selected candidates will be interviewed on-line.

Deputy Director
Institute of Mathematics of PAS

Dr. hab. Piotr Nowak