Artificial Intelligence: Trends and Challenges - Abstract

Sergei Kuznetsov

National Research University Higher School of Economics, Moscow, Russia

Abstract

In this talk, dedicated to the memory of two first presidents of the Russian Association for Artificial Intelligence, Dmitry A. Pospelov and Gennady S. Osipov, I will cover some aspects of the history of AI. The contours of this multifaceted discipline will be discussed, most striking recent achievements, societal implications and challenges will be highlighted. I would also touch the history of AI research in Russia [1], as well as recent advances in NLP research at Higher School of Economics, based on graph text models, called parse thickets, and their processing with techniques based on lattices of closed descriptions.

AI has a long prehistory in various branches of science, including philosophy, logics, neurophysiology and computer science. The term was coined by John McCarthy after the famous Dartmouth seminar in 1956. By 2020 after several waves of interest and disillusionment AI became one of the hottest scientific and technological frontiers. Almost every branch of human activity is experiencing the arrival of AI-based approaches. Recently most striking applications of AI in computer vision, speech understanding and modeling are related to the breakthrough in artificial neural networks. However, their instability and lack of interpretability, which have serious societal implications urge the appearance of new approaches to interpretable and explainable AI.