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Semantic programming in AI and Robotics

Andrey Nechesov

Sobolev Institute of Mathematics, Russia

Objective: For artificial intelligence and robotics, the most urgent task is to develop a pro-gamming language, programs in which would have a fast execution speed. The report presents a methodology for developing such programs using the theory of semantic programming. This methodology is based on the logical programming language Delta, developed by us. In which all programs have polynomial computational complexity. Moreover, the operation of a neural network was modelled in this language. Thus, hybrid schemes of AI can be set. For these purposes,the following are used: a polynomial analogue of Gandy's xed point theorem (PAG-theorem), p-iteration terms, conditional terms, and GNF-systems.

Biography

Andrey Nechesov is a mathematical researcher at the Sobolev Institute of Mathematics. He is the Member of the Siberian school of Artificial Intelligence and expert in the field of mathematical logic, theory of algorithms and theory of semantic programming.