Interactions of Low-dimensional Topology and Quantum Field Theory



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Machine learning and hard problems in topology

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Considering the special occasion and to diversify the list of topics, in this talk, intended for a broad audience, I decided to turn to something that hopefully can be fun and entertaining: While the "state-of-the-art" machine learning algorithms already make an impact at the level of high school or undergraduate curriculum, in this talk I want to explore whether they can help us with some of the most difficult mathematical challenges, at the cutting edge of the mathematical research. No prior familiarity with machine learning is required; rather, one of the goals of this talk is to provide a gentle introduction to some of the modern tools in this subject, in part explaining its rapidly increasing role in everyday life and, hopefully, in pure mathematics as well.

Primary author: GUKOV, Sergei Presenter: GUKOV, Sergei