Title: Statistical Machine Learning and Artificial Intelligence Methods for Solving Medico-Biological Problems

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PROPOSAL

Methods based on Mathematical statistics are being increasingly used to solve practical problems. Among them are such problems as need to be solved in real time, with minimal or no human intervention. These problems fall in the domain of machine learning and artificial intelligence - the set of theoretical foundations of which broadly emanate from the methods of mathematical statistics. Among these problems, in the last decades, the share of problems emerging from medicine, biology, psychology, etc. is rapidly increasing. The success in solving these depends greatly on the recent developments in the relevant technical methodologies.

The rapid developments of machine learning and artificial intelligence methods and computer technology have contributed significantly to their widespread use in solving medical and biological problems. In particular, they are popularly used in the diagnosis of diseases, detection of change-points or distributional changes, assessment of the condition, decision-making, treatment effectiveness and other applied problems for reliable solutions. These help specialists working in the relevant fields considerably to conduct their activities with confidence. Based on the above enhancements, an exposure to the current status of research in the aforementioned areas is very relevant, important and of current need. We thus consider it mandatory to provide an all-round exposure of the associated cutting-edge developments, which is what the proposed issue of our journal is aimed at.