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Aleksandr I. Panov (Eds.)

Artificial Intelligence

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Proceedings

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Preface

Welcome to the proceedings of the 19th Russian Conference on Artificial Intelligence (RCAI 2021). RCAI 2021 was held in Taganrog (Rostov region) and organized by the Russian Association for Artificial Intelligence and Southern Federal University. As a long-standing member of the European Association for Artificial Intelligence (EurAI, formerly ECCAI), the Russian Association for Artificial Intelligence has a great deal of experience in running important international AI events.

The first Soviet (Russian, from 1992 onwards) Conference on AI was held in Pereslavl-Zalessky in 1988. It was then held every other year till 2018, when the conference became annual. The conference gathers the leading specialists from Russia and other countries in the field of Artificial Intelligence. The participants of RCAI 2021 were mainly the members of research institutes of the Russian Academy of Sciences and universities all over the Russian Federation. The topics of the conference included data mining and knowledge discovery, text mining, reasoning, decision-making, natural language processing, vision, intelligent robotics, multi-agent systems, machine learning, AI in applied systems, ontology engineering, etc. Each submitted paper was reviewed by three reviewers, experts in the field of Artificial Intelligence, to whom we would like to express our gratitude. The conference received a total of 80 submissions, of which 26 were selected by the International Program Committee to be published in this volume. We hope that this publication will stimulate further research in various domains of Artificial Intelligence.

We dedicate this volume to the memory of our dear colleagues who passed away this year.

Valerii B. Tarasov (1955–2021) graduated from Moscow Bauman State Technical University and lectured there for several decades. Prof. Tarasov had a very broad scope of scientific interests in AI and related fields, he made important contributions in the fields of soft computation, semiotic modeling, and multi-agent systems. Prof. Tarasov was a cofounder and devoted member of the Russian Association for Artificial Intelligence and the Russian Association for Soft Computations, as well as the organizer of numerous conferences on soft computation.

Anna E. Yankovskaya (1939–2021) graduated from Tomsk State University and taught and undertook research at Tomsk Engineering University for several decades. Prof. Yankovskaya was a member of scientific councils of the Russian Association for Pattern Recognition and the Russian Association for Artificial Intelligence, along with European Academy of Science and International Association for Pattern Recognition. Her major contributions in discrete mathematics and AI are related to a matrix representation of knowledge, logical control, pattern recognition, test synthesis, and decision making.

August 2021

Sergei M. Kovalev
Sergei O. Kuznetsov
Aleksandr I. Panov

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