

# Lecture Notes in Artificial Intelligence

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Gennady S. Osipov · Aleksandr I. Panov ·  
Konstantin S. Yakovlev (Eds.)


# Artificial Intelligence

5th RAAI Summer School  
Dolgoprudny, Russia, July 4–7, 2019  
Tutorial Lectures

### *Editors*

Gennady S. Osipov   
Federal Research Center  
“Computer Science and Control”  
Moscow, Russia

Aleksandr I. Panov   
Federal Research Center  
“Computer Science and Control”  
Moscow, Russia

Konstantin S. Yakovlev   
Federal Research Center  
“Computer Science and Control”  
Moscow, Russia

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# Preface

The 5th RAAI Summer School on Artificial Intelligence was held in Dolgoprudy, Russia at the Moscow Institute of Physics and Technology (MIPT) during July 4–7, 2019. MIPT is one of the leading universities in Russia, especially renowned for its achievements in the fields of physics, mathematics, and computer sciences. The school was organized by the Russian Association for Artificial Intelligence which is a major academic non-profit organization in the field of AI in Russia.

More than 100 participants from all over the world (mostly from Russia, but also from Germany, Sweden, China, Turkey, Armenia, Syria, and Iran) took part in a four-day marathon comprised of lectures, workshops, hackathons, industry sessions, etc.

This tutorial book is composed of the selected tutorials by the invited speakers of RAAI Summer School 2019 and of the best students' papers. In total 20 student submissions were received and only 5 of them were chosen by the international Program Committee to be included in the book.

We appreciate the financial support of the school's sponsors (i.e.: MIPT, Yandex, Huawei, AimTech, NLMK, and Tinkoff) without which it would not have been possible to invite top AI experts to deliver the talks and make the participation free for all students.

July 2019

Gennady S. Osipov  
Aleksandr I. Panov  
Konstantin S. Yakovlev

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