Preface

Gennady Krasnikov
Russian Academy of Sciences
Moscow, Russia
niime@niime.ru

This volume contains the papers presented at the session "Data Science" within the VI International Conference on Information Technology and Nanotechnology (ITNT-2020).

The conference was held in Samara, Russia, during May 26-29, 2020 (itnt-conf.org). The conference is a forum for leading researchers from all over the world aimed to discuss the latest advances in the basic and applied research in the field of Information Technology and Nanotechnology. It is also aimed to attract young people to advanced scientific research and share the latest trends in training and research programs for future ITNT specialists [1].

In addition to the session "Data Science", ITNT-2020 also included three other sessions: "Computer Optics and Nanophotonics", "Image Processing and Earth Remote Sensing", and "Mathematical Modeling of Physico-Technical Processes and Systems". The whole forum brought together more than 500 scientists (of which more than 320 are young scientists under the age of 35) from Russia, United Kindom, China, Switzerland, United States, Belarus, India, Hong Kong, Yemen and other countries, as well as representatives of global high-tech corporations, developers of modern electronics – Huawei, Sberbank Robotics Laboratory, Smart Engines, Geoinformsputnik, and Nestle Rossiya LLC. 523 talks enabled discussion on a wide range of topics.

Due to restrictive measures caused by the spread of COVID-19, the conference was held in online format. The participants were offered the following presentation options: placing a poster / video presentation on the online resources of the conference with further discussion of the report in the comments section or making a presentation in real time using video conferencing platforms.

The topics of the session "Data Science" were grouped into the following key directions:

• Data Mining (Big Data, Systems and Platforms, Methods);

• Machine Learning (Neural Networks, Statistical Methods, Feature-Based Classification, Applications);

• Security, Cryptography (Cryptosystems Design and Analysis, Mathematical and Algorithmic Aspects, Efficient Implementations of Algorithms, Network Security);

• High Performance Computing (Parallel Programming Models and Languages, High-Performance Implementations, Complex Systems Simulation).

This year we have received 232 submissions addressed to "Data Science". Each submission was carefully reviewed by the Program Committee members and the reviewers. Based on the reviews, we accepted 161 papers for the presentation at the conference (65 oral and 96 poster reports) and selected 75 papers out of 161 for publication in this volume.

We thank all the participants of ITNT-2020 for excellent presentations and discussions, and we wish to see all of them at our future events.

CONFERENCE ORGANIZERS

The conference was held jointly [2] by Samara National Research University and Image Processing Systems Institute of the RAS - Branch of the Federal Scientific Research Centre "Crystallography and Photonics" of Russian Academy of Sciences, both located in Samara, Russia.

The Program and Organizing Committees were chaired by Gennady Krasnikov (Russian Academy of Sciences) and Viktor Soifer (Samara National Research University).

The full composition of committees can be found at http://itnt-conf.org.

We would also like to express our gratitude to all reviewers for their contributions to this collection.

COMPILERS OF THE VOLUME

This volume is prepared by Vladimir Fursov (Samara National Research University), Yegor Goshin (Samara National Research University).

The issuing editor: Denis Kudryashov (Image Processing Systems Institute of the RAS).

REFERENCES

[1] D. A. Savelyev, "International Conference and Youth School "Information Technologies and Nanotechnology," Computer Optics, vol. 41, no. 5, pp. 775-785, 2017 DOI: 10.18287/2412-6179-2017-41-5-775-785.

[2] N. L. Kazanskiy, "Efficiency of deep integration between a research university and an academic institute," Procedia Engineering, vol. 201, pp. 817-831, 2017. DOI: 10.1016/j.proeng.2017.09.604.