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Preface

Improvements in the technologies for machine learning, deep learning and artificial intelligence in general are considerably important for new knowledge acquisition, technological advancements of digital technical systems and digital economics development. Hybrid computing systems, new concurrent programming technologies and application development tools are essential for the definition of modern high-performance computer platform, which can efficiently implement these technologies. Currently, the actual growing area of scientific researches is testing and introducing new information and computing technologies in various fields of applications.

To discuss results and share experiences regarding such research, Khabarovsk hosts the biennial International Conference Information Technologies and High-Performance Computing. In 2019, the event will be held by the Computing Center of Far East Branch of the Russian Academy of Science for the fifth time.

The Program Committee and external experts have selected 25 best papers for publishing in this volume. A major part of scientific results described in these papers was obtained or tested using the resources from the Shared Services 'Data Center of the Far East Branch of the Russian Academy of Science'. The papers are divided into four topic areas related to the development of scientific and methodical concepts of information technologies and high-performance computing and their application in researches of various natural and engineering systems.

The papers are written by scientists, who represent leading scientific and educational organisations of the Russian Federation. The relevance of the issues presented during the conference is underlined by the presence of international participants.

We are grateful to the authors for their reports and to the Program Committee for the active organisation and preparations.

For more information, see ITHPC 2019 homepage: http://conf.ccfebras.ru/en/

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