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**EEML 2019 – The 5th International Workshop on
Experimental Economics and Machine Learning**

September 26, 2019, Perm, Russia

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Preface

This volume contains the papers presented at the Fifth International Workshop on Experimental Economics and Machine Learning held on September 26, 2019 at the National Research University Higher School of Economics in Perm, Russia.

This proceedings concentrates on interdisciplinary approaches to modelling human behaviour incorporating data mining and behaviour sciences. Data analysis results extracted from clean data of laboratory experiments are of advantage if compared with noisy industrial datasets from the web and other sources. In their turn, insights from behaviour sciences help data scientists. Similarly, behaviour scientists see new inspirations to research from industrial data science. Market leaders in Big Data, such as Microsoft, Facebook, and Google, have already realized the importance of Experimental Economics know-how for their business.

Due to the importance of such problems as global poverty, it is not surprising that the Royal Swedish Academy of Sciences has decided to award the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 2019 to Abhijit Banerjee and Esther Duflo (Massachusetts Institute of Technology, Cambridge, USA), and Michael Kremer (Harvard University, Cambridge, USA) "for their experimental approach to alleviating global poverty". For example, they have shown how powerful this approach can be, using field experiments to test a range of interventions that could improve school results in western Kenya.

In Experimental Economics, although financial rewards restrict subjects preferences in experiments, the exclusive application of analytical game theory is not enough to explain the data. Accordingly, the development and evaluation of ancillary models are of high importance. The more data is used for evaluation, the higher statistical significance can be achieved. Proven regularities from one dataset can help to understand another datasets. Since large amounts of behavioural data are required to scan for regularities, Machine Learning is the tool of choice for research in Experimental Economics. In some works, automated agents are needed to simulate and intervene in human interactions. This proceeding aims to create a forum, where researchers from both Data Analysis and Economics are brought together in order to achieve mutually-beneficial results.

This year the workshop has hosted five regular papers and five research proposals on a variety of topics related to different aspects of human behaviour, for example reinforcement learning in games, demography, social and monetary interactions, demand prediction, auction design, scientific publication activity, medical treatment etc. Each paper has been reviewed by three PC members on average; all these papers rely on different data analysis techniques and the presented results are supported by data.

The keynote talk on Field Experimentation in Marketing Research was presented by Dr. Ayelet Gneezy, Associate Professor of Behavioral Sciences & Marketing at Rady School of Management, University of California (San Diego, US).

The industry-oriented invited talk on Recommender Systems for Online Classified Advertisements was presented by Dr. Vasily A. Leksin, Unit Leader in Recommender Systems from AVITO.ru company (Moscow, Russia).

Another speaker from industry, Nikita Benkovich (Kaspersky Lab, Moscow, Russia) presented his co-authored work on a new Deep Learning based solution for detection of suspicious email.

We would like to thank all the authors of submitted papers and the Program Committee members for their commitment. We are grateful to local organisers and our sponsor: National Research University Higher School of Economics. We also would like to thank Machine Learning in Perm for active participation in the lively discussion during the workshop and informal communication as well. Finally, we would like to acknowledge the EasyChair system which helped us to manage the reviewing process and CEUR-ws publisher representatives for tactful negotiation.

September 26, 2019

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