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EEML 2017 – The 4th International Workshop on Experimental Economics and Machine Learning

September 17-18, 2017, Dresden, Germany

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Preface

This volume contains the papers presented at the Fourth International Workshop on Experimental Economics and Machine Learning held during September 17-18, 2017 at Technische Universität Dresden, Germany.

This proceedings concentrates on an interdisciplinary approach to modelling human behavior incorporating data mining and expert knowledge from behavioral 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 behavioral sciences help data scientists. Behavior scientists see new inspirations to research from industrial data science. Market leaders in Big Data, as Microsoft, Facebook, and Google, have already realized the importance of Experimental Economics know-how for their business.

Due to the problem importance, 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 2017 to Richard H. Thaler (University of Chicago, IL, USA) "for his contributions to behavioural economics". Thus, he has incorporated psychologically-based assumptions such as limited rationality, social preferences, and lack of self-control into analyses of economic decision-making. By exploring their consequences, he has shown how these human features systematically affect individual decisions and even market outcomes.

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. It calls for the development and evaluation of ancillary models. The more data is used for evaluation, the more statistical significance can be achieved. Proven regularities from one dataset can help to understand another datasets. Since large amounts of behavioral 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 six regular papers out of 11 and one research proposal on a variety of topics related to different aspects of human behavior in games, demography, social and monetary interactions, recommender systems for job markets, stock markets, scientific publication activity, etc. Each paper has been reviewed by three PC members at least; all these papers rely on different data analysis techniques and the presented results are supported by data.

Dr. Kai Heinrich from TU-Dresden has presented a keynote talk on Data Science and Economics.

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: Technische Universität Dresden. Finally, we would like to acknowledge the EasyChair system which helped us to manage the reviewing process.

September 17-18, 2017
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