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Intelligent Data Engineering and Automated Learning – IDEAL 2016

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Proceedings

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Preface

The core of the IDEAL conference has been evolving from mining, analyzing, and exploring to interpreting and making sense of seas of data; this is particularly meaningful in this big-data and deep-learning era. The IDEAL conference has served its purposes well over the last 18 years, which have witnessed a fast changing world of data science and an increase in the development and deployment of learning and autonomous systems and intelligent bots. It has become one of the leading forums for learning the complexity and hidden dynamics of data-driven real-world problems and turning data into information, knowledge, and solutions. The IDEAL conference attracts international experts, researchers, leading academics, practitioners, and industrialists from the communities of machine learning, computational intelligence, novel computing paradigms, data mining, knowledge management, biology, neuroscience, bio-inspired systems and agents, distributed systems, and robotics. It continues to evolve to embrace emerging topics and exciting trends. This year IDEAL was held in one of the most beautiful historical cities in mainland China, Yangzhou. The conference received 115 submissions, which were rigorously peer-reviewed by the Program Committee members and experts. Only the papers judged to be of highest quality were accepted and included in these proceedings.

This volume contains 68 papers accepted and presented at the 17th International Conference on Intelligent Data Engineering and Automated Learning (IDEAL 2016), held on 12–14 October 2016 in Yangzhou, China. These papers provided a valuable and timely sample of the latest research outcomes in data engineering and automated learning, from methodologies, frameworks, and techniques to applications. The topics presented included evolutionary algorithms, deep learning neural networks, probabilistic modelling, particle swarm intelligence, big data analytics, and applications in regression, classification, clustering, medical and biological modelling and prediction, text processing, and image analysis. IDEAL 2016 also enjoyed outstanding keynote talks from leaders in the field, Xin Yao, Zhihua Zhou, Longbing Cao, and Bo An.

We would like to thank all the people who devoted so much time and effort to the successful running of the conference, in particular the members of the Program Committee and reviewers, as well as the authors who contributed to the conference. We are also very grateful for the hard work of the local organizing team at Yangzhou University, especially Prof. Yun Li, in local arrangements, as well as for the help from

Miss Yao Peng at the University of Manchester in checking through all the camera-ready files. Continued support and collaboration from Springer is also greatly appreciated.

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