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Data Analytics for Renewable Energy Integration

4th ECML PKDD Workshop, DARE 2016
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Revised Selected Papers

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Preface

This volume presents a collection of papers focused on the use of data analytics and machine learning techniques to facilitate the integration of renewable energy resources into existing infrastructure and socioeconomic systems. This volume includes papers presented at DARE 2016, the 4th International Workshop on Data Analytics for Renewable Energy Integration, which was hosted by ECML PKDD 2016, and a few invited articles.

In recent times, climate change, energy security, and sustainability have focused much attention on the development of clean and renewable energy sources. However, of equal importance is the issue of integrating these sources into existing infrastructure and socioeconomic systems. While increasing the generating capacities of renewable energy sources is still important, issues such as efficient and cost-effective storage and distribution, demand response, planning, and policy making must be resolved in parallel. These challenges are inherently multidisciplinary and depend heavily on robust and scalable computing techniques and the ability to handle large, complex data sets. The domains of data analytics, pattern recognition, and machine learning are uniquely positioned to offer solutions to many of these challenges. Examples of relevant topics include time series forecasting, the detection of faults, cyber security, smart grid and smart cities, technology integration, demand response, and many others.

This year's event attracted numerous researchers working in the various related domains, both to present and discuss their findings and to share their respective experiences and concerns. We are very grateful to the organizers of ECML PKDD 2016 for hosting DARE 2016, the Program Committee members for their time and assistance, and the Masdar Institute, MIT, and the University of Oldenburg for their support of this timely and important workshop. Last but not least we sincerely thank the authors for their valuable contributions to this volume.

October 2016

Wei Lee Woon
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