Preface

The First IEEE ICDM Workshop on Causal Discovery (CD 2013)

Causal discovery aims to infer the cause-effect relationships between variables. As a basic tool for explanation, prediction and decision making, causal discovery has been utilized in almost all disciplines. Traditionally, causal relationships are identified using controlled experiments. However, conducting such experiments is often impossible due to cost or ethical concerns. Therefore causal discovery based on observational data becomes an essential alternative to controlled experiments and many cross-disciplinary efforts have been made to discover causal relationships from observational data. Recently, with the rapid accumulation of huge volume of observational data, the field of causal discovery is seeing exciting opportunities, as well as greater challenges.

The 1st IEEE ICDM Workshop on Causal Discovery (CD 2013) is aimed at bringing together researchers and practitioners interested in causal discovery from various disciplines, to communicate their new ideas, algorithms, and novel applications of causal discovery methods. This workshop is held in conjunction with the 12th IEEE International Conference on Data Mining in Dallas, Texas on December 7, 2013, which provides it the opportunity to attract contributions from the data mining community especially.

The workshop has received ten submissions. After a careful review process, five papers are selected for presentation at CD 2013. We are very pleased to see a good coverage of the papers on different types of causal models, real-world applications of causal discovery and the adaption of efficient data mining methods to causal discovery. The workshop features a keynote by Clark Glymour, Alumni University Professor of Philosophy at Carnegie Mellon University, who is one of the pioneer researchers for designing computational methods for causal discovery. More information of the workshop can be found at its website: http://nugget.unisa.edu.au/CD2013/.

We would like to thank all the people who have contributed to the workshop. In particular, we thank all authors who have submitted their papers to CD 2013 and our PC members for their timely and high-quality reviews – it would not be possible for the workshop to succeed without your involvement. We are also grateful to ICDM 2013 for their support, especially to the workshop chairs Dr Wei Ding and Dr Takashi Washio for their help.

Finally we would like to thank you, the participants of the workshop and the readers of the proceedings. We hope you enjoy the workshop and all the papers.

Jiuyong Li, Kun Zhang, Jian Pei and Lin Liu

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Workshop Organisation

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