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Preface to the workshop on cost sensitive data mining

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Preface

The Workshop on Cost Sensitive Data Mining

Much of the early work on data mining concentrated on developing algorithms that focused on classification accuracy. A more challenging and practical problem is to devise algorithms that learn rules or associations that optimize income and take better account of costs. Thus, for example, in marketing, we are interested in identifying investments that produce greatest income given the cost of marketing. In medical diagnosis we need to take account of the costs of tests required in diagnosis, such as blood tests, x-rays and scans. This is an important and growing research area, which has produced interesting work in such areas as associative rule mining, clustering and classification using a variety of different data mining techniques and is used in a wide range of application domains such as business, drug design, cosmetic industry, food industry, pollution detection and financial crisis prediction.

The Workshop on Cost Sensitive Data Mining is organized in conjunction with IEEE ICDM 2012, the 12th IEEE International Conference on Data Mining, and held on 10 December 2012 in Brussels, Belgium.

We aim to provide an international forum for researchers with an interest in cost-sensitive data mining resulting in interesting and fruitful discussions. The workshop covers action mining and causal relationships, active learning, class imbalance problems, automated model identification, cost-sensitive rule generation, non-forced classification, regression and prediction of rare and extreme values, weighted self organizing maps using importance weights and using an element of game theory to induce cost-sensitive decision trees.

We would like to thank many people who have contributed to the success of this event and are particularly grateful to: all the authors for their interest in the workshop and for submitting their contributions, all PC members for publicizing the workshop and providing timely and constructive reviews for the submitted papers.

The proceedings of ICDM Workshops include seven peer-reviewed papers accepted to the COSTS workshop out of thirteen valid submissions. We hope you enjoy reading them.

Looking forward to meet you in Brussels!

14 October 2012

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