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Privacy, Security, and Trust in KDD

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Preface

Privacy, security, and trust in data mining are crucial and related issues that have captured the attention of many researchers, administrators, and legislators. Consequently, data mining for improved security and the study of suitable trust models, as well as data mining side-effects on privacy, have rapidly become a hot and lively research area. The issues are rooted in the real-world and concern academia, industry, government, and society in general. The issues are global, and many governments are struggling to set national and international policies on privacy, security, and trust for data mining endeavors. In industry, this is made evident by the fact that major corporations, many of which are key supporters of knowledge discovery and data mining (KDD) including IBM, Microsoft, and Yahoo!, are allocating significant resources to study and develop commercial products that address these issues. For example, at last year's PinKDD workshop, researchers from Yahoo! Research won the best paper award for their analysis of privacy issues in search queries. Beyond research, IBM has sponsored a Privacy Institute[1] and developed products, such as Hippocratic Databases[2]. These efforts have only scratched the surface of the problem, and there remain many open research issues for further investigation. For instance, the National Science Foundation recently funded the multi-institutional Team for Research in Secure Technologies[3] (TRUST) where privacy-preserving data mining is a principal focus of researchers' work in areas ranging from healthcare to wireless sensor networks. The analysis of the security, privacy, and trust aspects of data mining has begun, but they are still relatively new concepts and require workshops to promote public awareness and to present emerging research. By supporting the development of privacy-aware data mining technology, we can enable a wider social acceptance of a multitude of new services and applications based on the knowledge discovery process.

Ensuring privacy and security as well as establishing trust are essential for the provision of electronic and knowledge-based services in modern e-business, e-commerce, e-government, and e-health environments. To inject privacy and trust into security and surveillance data mining projects, it is necessary to understand what the goals of the latter are. This volume of *Lecture Notes in Computer Science* presents the proceedings of the Second International Workshop on Privacy, Security, and Trust in KDD(PinKDD 2008), which was held in conjunction with the 14^{th} ACM SIGKDD International Conference on Knowledge Discovery and Data Mining. The workshop was held on August 24, 2008 in Las Vegas, Nevada and allowed researchers from disparate environments, including business,

[1] http://www.research.ibm.com/privacy/
[2] http://www.zurich.ibm.com/pri/projects/hippocratic.html
[3] http://www.truststc.org/

security, and theory to learn about the concerns and potential solutions regarding their challenges within a data mining framework.

The PinKDD 2008 workshop attracted attention from the research community and support from both industrial organizations and academic institutions. The workshop received a number of high-quality research paper submissions, each of which was reviewed by a minimum of three members of the Program and Organizing Committee. In all, six papers were presented at the workshop and five were selected for extension and inclusion in the workshop's proceedings presented in this volume. The papers represented the diversity of data mining research issues in privacy, security, and trust. In addition to two research sessions, the workshop highlights included a keynote talk which was delivered by Bhavani Thuraisingham (University of Texas at Dallas) and a panel on privacy issues in geographic data mining: the panel consisted of Peter Christen (Australian National University) and Franco Turini (University of Pisa).

December 2008

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