Foreword for the special issue of selected papers from the 7th EDBT/ICDT Workshop on Privacy and Anonymity in Information Society (PAIS 2014)

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The seventh Workshop on Privacy and Anonymity in Information Society (PAIS 2014) was held in conjunction with the International Conference on Extending Database Technology (EDBT) and International Conference on Database Theory (ICDT) in Athens, Greece.

Data privacy and anonymity has become a major research topic. One of the key challenges is to produce useful computational solutions for sharing and using data, while providing scientific guarantees that the identities and other sensitive information of individuals are protected.

The PAIS 2014 workshop provided an open yet focused platform for researchers and practitioners from fields such as computer science, statistics, healthcare informatics, and law to discuss and present current research challenges and advances in data privacy and anonymity research.

The present special issue contains three extended papers that have been selected as the best three papers presented at PAIS 2014 workshop.

The first paper by Eirini C. Micheli, Giorgos Margaritis, and Stergios V. Anastasiadis is titled "Permission-based Index Clustering for Secure Multi-User Search". This paper tackles the problem of secure keyword search in shared infrastructure in order to prevent stored documents from leaking sensitive information to unauthorized users. The authors introduce an innovative indexing organization for keyword searching which uses prebuilt secure indices to skip unnecessary I/O as well as a configurable merging of indices for documents with common authorized users. Their experiments show that their secure indexing schema achieves low search and indexing time for workloads with different empirical and theoretical characteristics.

The second paper by Fida K. Dankar is titled "Privacy Preserving Linear Regression on Distributed Databases". This paper describes a theoretical privacy preserving linear regression model on horizontally distributed data for the analysis of data owned by several sources. The protocol uses a semi-trusted third party. The different data holders do not share anything about their data apart from the regression parameters and the model diagnostics.

The third paper by Alina Campan, Yasmeen Alufaisan, and Traian Marius Truta is titled "Preserving Communities in Anonymized Social Networks". This paper studies if anonymized social networks preserve existing communities compared to the original social networks. To anonymize social networks the authors use two models, namely, k-anonymity for social networks and k-degree anonymity. Two approaches to measure the community preservation between the initial network and its anonymized version are introduced. The performed experiments on publically available datasets show that anonymized networks satisfactorily preserve the community structure of their original networks.

We believe that the selected papers provide a good reference to the novel aspects of privacy and anonymity in information society. We hope that you will enjoy reading them.

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