

**THE CONCORDIA INSTITUTE FOR INFORMATION SYSTEMS ENGINEERING
IS PLEASED TO PRESENT THE FOLLOWING GUEST LECTURE**

Noman Mohammed, Ph.D. Candidate

**Anonymizing Healthcare Data: A Case Study on the
Blood Transfusion Service**

This paper has won the best student paper award in ACM SIGKDD 2009, which is the top conference in the field of data mining.

Abstract: Gaining access to high-quality health data is a vital requirement to informed decision making for medical practitioners and pharmaceutical researchers. Driven by mutual benefits and regulations, there is a demand for healthcare institutes to share patient data with various parties for research purposes. However, health data in its raw form often contains sensitive information about individuals, and publishing such data will violate their privacy. In this paper, we study the privacy concerns of the blood transfusion information-sharing system between the Hong Kong Red Cross Blood Transfusion Service (BTS) and public hospitals, and identify the major challenges that make traditional data anonymization methods not applicable. Furthermore, we propose a new privacy model called LKC-privacy, together with an anonymization algorithm, to meet the privacy and information requirements in this BTS case. Experiments on the real-life data demonstrate that our anonymization algorithm can effectively retain the essential information in anonymous data for data analysis and is scalable for anonymizing large dataset.

Biography: Noman Mohammed is pursuing his Ph.D. in Computer Science in the Department of Computer Science and Software Engineering at Concordia University since September 2008. His area of research is security and privacy issues of information and networking systems. Currently, he is working on data privacy issues that are involved in the new wireless technologies, such as RFID systems, location-based services, etc. under the supervision of Prof. Mourad Debbabi and Prof. Benjamin C. M. Fung. Previously, he received his M.A.Sc. in Information Systems Security from Concordia university, Canada in May 2008 and his B.S. degree in Computer Science from North South University, Bangladesh in August 2005. He has received several prestigious awards including Canada Graduate Scholarship from NSERC and Doctoral Research Scholarship from FQRNT. He has published in top data mining and security conferences and journals. He has also served as reviewers for many international conferences

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