INVITED SPEAKER SEMINAR

AT THE CONCORDIA INSTITUTE FOR INFORMATION SYSTEMS ENGINEERING

Monday, October 1, 2018 at 11:00 am
Room EV003.309

"Building Smart Systems for Focused Pattern Discovery Over Big Data"

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ABSTRACT

With rapid advances in the cloud computing and dramatic expansion of data collection systems, nowadays, software systems, such as web-based and various phenomenal systems, have collected vast amounts of data about their processes and users. These data are modern-day treasure stores that can be mined to glean insights into a software system development life cycle (SDLC), business's products, services and customers. Extracting useful knowledge from such massive data requires smart and scalable analytics systems and programming tools. Despite great efforts that have been made in the past, there is a large gap between academic deliverables and business expectations and thus, many questions still remain to be answered. How can we build smart software systems to discover actionable knowledge from dynamically changing data produced by different platforms? How can we effectively combine human and machine intelligence to gain more useful and effective insights from massive data? How can we guarantee the high performance of systems by taking the power of cloud computing into account?

One major objective in building such systems is to discover patterns that can represent intrinsic and important properties of massive datasets in different domains. Finding patterns has been studied extensively in the last two decades. However, most of the techniques fail to incorporate the user preference into the process, and thus, lack the ability to steer systems to more interesting parts of data. In this talk, I will describe how we overcome this limitation by developing user-oriented systems for discovering patterns. In this new problem setting, patterns are then simultaneously extracted according to the user preference. I will talk about the problems, challenges and opportunities for building systems to resolve two pattern analytics problems: 1) high utility pattern discovery in massive sequential data and 2) team formation in a network of experts. I will also talk about my research projects with the industry and how theory can be implemented in real world systems.

BIOGRAPHY

Morteza Zihayat joined the School of Information Technology Management of Ryerson University in 2017. Before joining ITM, Dr. Zihayat was a Postdoctoral Research Fellow in the Faculty of Information (iSchool) at the University of Toronto. He was also a research fellow in the IBM Spectrum Computing as a member of the BRAIN ALLIANCE - Big Data Research, Analytics, and Information Network. His research concerns big data analytics, business intelligence and machine learning. He was recently awarded multiple research grants, including NSERC DG and MITACS. He has ongoing collaborations with industry, including IBM Canada and AT&T Labs Research. Dr. Zihayat obtained his PhD from York University where he worked on designing scalable frameworks to discover actionable knowledge from big data streams and social networks. Since 2012, Dr. Zihayat has been involved in designing and implementing several industrial projects as a business analyst and data scientist at IBM Canada, Dapasoft Inc. and The Globe and Mail Inc. His research has been published in top-tier data mining and data management venues such as SIGKDD, SIAM SDM, PKDD, EDBT, Machine Learning and Information Sciences.

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