

Presents the Spring 2012 EECS Seminar Series

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“Mining Hidden Knowledge in Heterogeneous Information Networks”

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ABSTRACT

Many objects in the real world are interconnected, forming complex heterogeneous but semi-structured information networks. Different from some studies on social network analysis where friendship networks or web page networks form homogeneous information networks, heterogeneous information network reflect complex and structured relationships among multiple typed objects. For example, in a university network, objects of multiple types, such as students, professors, courses, departments, and multiple typed relationships, such as teach and advise are intertwined together, providing rich information.

We explore new methodologies for mining hidden knowledge in such heterogeneous information networks, including integrated ranking and clustering, classification, data integration, trust analysis, role discovery and prediction. We show that structured information networks are informative, and link analysis on such networks is powerful at uncovering critical knowledge hidden in large networks.

We also present a few promising research directions on mining heterogeneous information networks.

BIOGRAPHY

Jiawei Han, Bliss Professor of Computer Science, University of Illinois at Urbana-Champaign. He has been researching into data mining, information network analysis, database systems, and data warehousing, with over 600 journal and conference publications. He has chaired or served on many program committees of international conferences, including PC co-chair for KDD, SDM, and ICDM conferences, and Americas Coordinator for VLDB conferences. He is currently the founding Editor-In-Chief of ACM Transactions on Knowledge Discovery from Data and as the Director of Information Network Academic Research Center supported by U.S. Army Research Lab. He is a Fellow of ACM and IEEE, and received 2004 ACM SIGKDD Innovations Award, 2005 IEEE Computer Society Technical Achievement Award, 2009 IEEE Computer Society Wallace McDowell Award, and 2011 Daniel C. Drucker Eminent Faculty Award at UIUC. His book "Data Mining: Concepts and Techniques" has been used popularly as a textbook worldwide.