

School of Computing and Informatics

Research Day 2017

University of Louisiana at Lafayette

Lafayette, Louisiana



Proudly announces the guest speaker

Professor Inderjit S. Dhillon

*Gottesman Family Centennial Professor of Computer Science and Mathematics
University of Texas at Austin*

who will give a presentation entitled

Multi-Target Prediction via Low-Rank Embeddings

Abstract: Linear prediction methods, such as linear regression and classification, form the bread-and-butter of modern machine learning. The classical scenario is the presence of data with multiple features and a single target variable. However, there are many recent scenarios where there are multiple target variables. For example, recommender systems, predicting bid words for a web page (where each bid word acts as a target variable), or predicting diseases linked to a gene. In many of these scenarios, the target variables might themselves be associated with features. In these scenarios, bilinear and nonlinear prediction via low-rank embeddings have been shown to be extremely powerful. The low-rank embeddings serve a dual purpose: (i) they enable tractable computation even in the face of millions of data points as well as target variables, and (ii) they exploit correlations among the target variables, even when there are many missing observations. We illustrate our methodology on various modern machine learning problems: recommender systems, multi-label learning and inductive matrix completion, and present results on some standard benchmarks as well as an application that involves prediction of gene-disease associations.

Friday, October 27, 2017

9:10 A.M. ~ OLVR 112

Biography: Professor Dhillon received his B.Tech. degree from the Indian Institute of Technology, Bombay in 1989. He subsequently worked at AT&T Bell Laboratories as a Research Staff Member under Dr. Narendra Karmarkar. He received his Ph.D. from the University of California at Berkeley in 1997 under the direction of Beresford Parlett and James Demmel. Dhillon joined the Computer Science faculty at the University of Texas at Austin in 1999. His main research interests are in machine learning, data analysis and computational mathematics. His emphasis is on developing novel algorithms that respect the underlying problem structure and are scalable to large data sets. In machine learning, Dhillon is well known for his work on clustering and co-clustering high dimensional data sets, metric and kernel learning, inverse covariance estimation, divide-and-conquer methods, and NOMADic methods for large-scale problems in machine learning.

Professor Dhillon is a fellow of the [Association for Computing Machinery](#)(ACM), a fellow of the Institute of Electrical and Electronics Engineers([IEEE](#)), a fellow of the [Society for Industrial and Applied Mathematics](#)(SIAM), and a fellow of the [American Association for the Advancement of Science](#)(AAAS).

