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Following the Data: Learning to Knowledge to Action

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Friday, November 9, 2007 ✦ 3:00 – 4:00 p.m.
116 DeBartolo Hall

Nitesh Chawla is an Assistant Professor in the Department of Computer Science and Engineering, University of Notre Dame. His core research is in machine learning and data mining, and various inter-disciplinary applications of the same, including medicine, finance, biology, systems, and security. He directs the Data, Inference, Analysis and Learning (DIAL) Lab, and his work has been supported with funding from NSF, DOJ, and DOD. His work has received various awards including outstanding dissertation, winner of a classification challenge at NIPS 2004, and paper awards at conferences. He is also the recipient of FIE New Faculty Fellowship for innovations in teaching data mining. Prior to joining Notre Dame, he was managing retail risk at Canadian Imperial Bank of Commerce. He received his Ph.D. from the University of South Florida.

ABSTRACT

Data are becoming increasingly large scale (massive), unbalanced, costly, uncertain, and inter-linked, requiring ingenuity and creativity both at the theoretical and applied components of research. Dr. Chawla's research group, DIAL: Data Inference, Analysis, and Learning Lab, primarily focuses on data mining and machine learning in the presence of such extremes of data. In this talk, Dr. Chawla will present a few components of his group's work. The first component addresses the important challenge of learning and action in the presence of rare events, utility based data mining, and uncertainty in predictive distributions in non-stationary/drifting/biased data distributions; the second component presents work in scalable and parallel machine learning; the third component takes a flight to the group's work in mining networked data (graphs), and finally, the talk will close with work on troubleshooting grids and high performance computing infrastructure using data mining. The presentation will be interspersed with references to utilization of high computing resources and a variety of multidisciplinary applications of the research.

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