Interdisciplinary Data Sciences Consortium

* IDSC Seminar Series *

November 4, 2016 2:30pm-3:30pm

Location: BSN 115

Presents

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https://idscbigdata.com/

Title: Predicting Presidential Election Outcomes (and other things) from Media Watch: Discoveries from HDLSS Data

Abstract: The days of surprise about actual election outcomes in the big data world are likely to be fewer in the years ahead, at least to those who may have access to such data. In this paper we highlight the potential for forecasting the United States presidential election outcomes at the state and county levels based solely on the data about viewership of television programs. In addition to their potential to forecast, these models could also help campaigns target programs for advertisements. Nearly two billion dollars were spent on television advertising in the 2012 presidential race, suggesting potential for big data–driven optimization of campaign spending. Given that the data is High Dimensional Low Sample Size (HDLSS) we conduct a comparative analysis both with and without feature reduction. Simpler "single show models" often provide more insights (and predictive accuracies) than more sophisticated models with feature reduction in these important real-world applications. Beyond predicting election outcomes, we show how media watch behavior can potentially predict state-level key healthcare measures such as heart disease, STDs, and drunk-driving fatalities—an important finding considering the billion-dollar public health and pharmaceutical advertising expenditure.

Biography: Balaji Padmanabhan is the Anderson Professor of Global Management and Professor of Information Systems & Decision Sciences. He is also the Director of the Center for Analytics & Creativity at the Muma College of Business. Padmanabhan's research focuses on innovative applications of analytics for business and policy, including algorithms for online news recommender systems, management of data analytics in firms, fraud detection in healthcare, analytics in examining service quality and customer churn, behavioral profiling, media analytics for elections and pattern discovery. His work has been published in both computer science and information systems journals and conferences including *Management Science*, *Information Systems Research*, *MIS Quarterly*, and *INFORMS Journal on Computing*. He received a B.Tech in Computer Science from Indian Institute of Technology (IIT) and a PhD from New York University (NYU). He also works with several firms on technical, strategic and educational issues related to business and data analytics.

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