Distinguished Lectures
Fall 2016

Colorado State University's Information Science and Technology Center (ISTeC) *presents two lectures by*

Dr. Sanjeev Kulkarni
**Professor of Electrical Engineering
Dean of the Graduate School
Princeton University**

ISTeC Distinguished Lecture

In conjunction with the Department of Electrical and Computer Engineering, and Department of Computer Science Seminar Series

"Machine Learning and Democracy: Some Problems in Collective Decision-Making"

**Monday, Oct. 24, 2016
Reception with refreshments: 10:30 a.m.
Lecture: 11:00 a.m.-12:00 noon
Morgan Library Event Hall**

Department of Electrical and Computer Engineering, and Department of Computer Science Special Seminar *Sponsored by ISTeC*

"Distributed Inference: Aggregating Probability Forecasts and Collaborative Regression"

**Monday, Oct. 24, 2016
Lecture: 3:00-4:00 p.m.
Lory Student Center 300**

Abstracts

Machine Learning and Democracy: Some Problems in Collective Decision-Making

A recent area of interest in machine learning involves drawing inferences from a large number of agents, each with some partial information. Such problems arise in a number of settings, with recent areas of interest including recommender systems and sensor networks. Problems in collective decision-making are also closely related to a fundamental problem of democracy — that of inferring the collective will of the people. This talk will give a brief overview of machine learning and voting theory, followed by a discussion of some of our recent work in these areas.

Distributed Inference: Aggregating Probability Forecasts and Collaborative Regression

A recent area of interest in machine learning involves drawing inferences from a large number of agents, each with some partial information. Often, these tasks must be accomplished in a distributed setting and in the face of scarce resources (time, bandwidth, and power). This talk describes some of our work on two problems in this area that use ideas from kernel methods and graphical models: (i) aggregating probability forecasts; and (ii) an approach for collaborative regression.

Speaker Biography

Sanjeev R. Kulkarni received a B.S. in Mathematics and Electrical Engineering from Clarkson University, an M.S. in Electrical Engineering from Stanford University, and his Ph.D. in Electrical Engineering from M.I.T.

From 1985 to 1991 he was a Member of the Technical Staff at M.I.T. Lincoln Laboratory. Since 1991, he has been with Princeton University where he is currently Professor of Electrical Engineering and Dean of the Graduate School. He is also an affiliated faculty member of the Department of Operations Research and Financial Engineering and the Department of Philosophy. Prof. Kulkarni served as Director of the Keller Center from 2011-2014, Master of Butler College from 2004 to 2012, and Associate Dean for Academic Affairs in the School of Engineering and Applied Science from 2003-2005. He spent January 1996 as a research fellow at the Australian National University. He spent 1998 with Susquehanna International Group and was a regular consultant there from 1997 to 2001. During Summer 2001, he was a visiting researcher at Flarion Technologies.

Prof. Kulkarni received an ARO Young Investigator Award in 1992, and an NSF Young Investigator Award in 1994. He has also received a number of teaching awards at Princeton University, including the President's Award for Distinguished Teaching in May 2007. He served as an Associate Editor for the IEEE Transactions on Information Theory and is a Fellow of the IEEE. Prof. Kulkarni's research interests include statistical pattern recognition, machine learning, nonparametric estimation, information theory, wireless networks, signal/image/video processing, and econometrics and finance.

To arrange a meeting with the speaker, please contact Prof. Edwin Chong, 970-491-7858, (edwin.chong@colostate.edu)

Upcoming Distinguished Lectures

December 5

"Quantitative Ethnography: Measuring Complex Thinking Using Grounded Data

11:00 am -12:00 noon

Morgan Library Event Hall

Dr. David Shaffer

ISTeC (Information Science and Technology Center) is a university-wide organization for promoting, facilitating, and enhancing CSU's research, education, and outreach activities pertaining to the design and innovative application of computer, communication, and information systems. For more information please see ISTeC.ColoState.edu.