psd

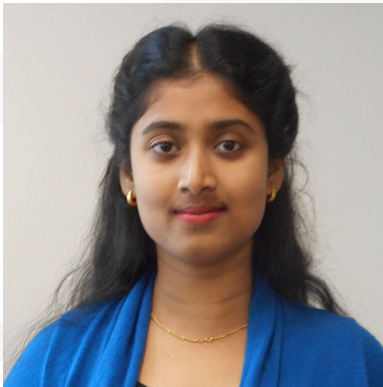# Flexible Bayesian Methods for High Dimensional Data

WHEN
April 28, 2021
2:00 PM, CDT

WHERE
Via ZOOM
ZOOM information will be provided in the email announcement for this seminar.

Enakshi Saha, PhD candidate

We study flexible Bayesian methods that are suitable for a wide range of learning problems involving complex high dimensional data. In particular, we focus on two important domains of Bayesian Statistics: Bayesian ensemble learning and latent factor models. As part of the first topic, we derive the posterior concentration rates of Bayesian Additive Regression Trees (BART) and their multiple variants. Later we demonstrate how BART can be suitably adapted to Discrete Choice Models, with improved predictive performance over conventional alternatives, for several consumer choice datasets. In this regard, we also discuss how the theoretical results mentioned above can be useful in model specification. In the second part of this presentation, we propose a sparse factor analysis model for dynamic data that is suitable for discovering latent structures in multivariate time series arising from a wide range of real life applications. We implement this model on a large scale US macroeconomic data and illustrate how the latent structures discovered by our model can provide interesting insights into different aspects of the US economy, with a special emphasis on the 2008 financial crisis.

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