## Data Science Seminar Hosted by Department of Mathematical Sciences

Date: Tuesday, April 24, 2018Time: 12:05pm - 1:05pm

■ Room: WH-100E

• Speaker: Haomiao Meng (Binghamton University)

Title: Multicategory Angle-based Large-margin Classification

## **Abstract**

Large-margin classifiers are popular methods for classification. Among existing simultaneous multicategory large-margin classifiers, a common approach is to learn k different functions for a k-class problem with a sum-to-zero constraint. Such a formulation can be inefficient. We propose a new multicategory angle-based large-margin classification framework. The proposed angle-based classifiers consider a simplex-based prediction rule without the sum-to-zero constraint, and enjoy more efficient computation. Many binary large-margin classifiers can be naturally generalized for multicategory problems through the angle-based framework. Theoretical and numerical studies demonstrate the usefulness of the angle-based methods.

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