

GRADUATE SEMINAR

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Clustering probability density functions

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<https://uregina-ca.zoom.us/j/94125367372>

Abstract

With today's computational power, the need to reduce data sets to summary statistics before performing analyses is becoming less of a necessary constraint. For example, data sets are often reduced to their mean values before performing clustering analyses – this can result in unnecessary information loss and inaccuracy.

This talk will look at a clustering technique that can be applied to data sets that are represented by probability density functions (pdfs). As an illustrative example, we will consider the following 7 pdfs:

f_1	f_2	f_3	f_4	f_5	f_6	f_7
$X_1 \sim N(0,1)$	$X_2 \sim N(1,1)$	$X_3 \sim N(-1,1)$	$X_4 \sim N(4,1)$	$X_5 \sim N(5,1)$	$X_6 \sim N(-4,1)$	$X_7 \sim (-5,1)$

The goal will be to describe and execute an algorithm that groups the similar pdfs. This algorithm is part of a collaboration with Wen-Liang Hung from Taiwan.