Applied Math Seminar

The Universidad Nacional de Colombia-Manizales and **the Claremont Center for the Mathematical Sciences** invite you to join us to our weekly seminar on applied mathematics during the first semester of 2024.

Speaker: Gabe Chandler
Associate Professor of Mathematics and Statistics
Pomona College
Date: March 4 th 2024
Time in California: 4:15 pm
Time in Colombia: 7:15 pm

GRAPHICAL ANOMALY DETECTION FOR HIGH DIMENSIONAL AND OBJECT DATA

Abstract

Anomaly detection is an important task in data analysis, though an agreed upon definition of what constitutes an outlier does not exist. Accordingly, a graphical tool that can highlight interesting observations in a data set that the scientist can then investigate with domain specific knowledge would be of value. The depth quantile function (DQF), a recently introduced feature map that takes data of arbitrary dimension to a function of a single variable while encoding certain geometric information, will provide such a tool. After introducing the DQF, we will discuss adaptations that make it particularly suited to the problem of anomaly detection, particularly the case where the non-anomalous data is living on a lower dimensional manifold in the data space. The DQF is also kernelizable, allowing applications to non-Euclidean data, as will be demonstrated via several examples.

VENUE:
► Emmy Noether Room, Estella 1021, Pomona College 610 N. College Ave. Claremont, CA 91711 United States
► Zoom: https://pomonacollege.zoom.us/my/radzoom

ORGANIZERS:
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