



## Daniel Pimentel-Alarcon, PhD

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**Friday, October 4, 2024**

**12:00-1:00 pm**

**HSLC 1248 \*or\* via Zoom Link**

<https://uwmadison.zoom.us/j/97615509019>

## Unsupervised Learning from Messy Data

**Abstract:** In this talk I will discuss some of the main challenges posed by small sample sizes, missing values, outliers, skewed groups, and sparsity patterns in Machine Learning, specifically in the unsupervised and semi-supervised setting. Most of these issues arise in modern applications of science, ranging from meta genomics to astronomy. I will also share some recent discoveries and strategies to mitigate these issues and a glimpse of some theoretical developments that might pave the road to the much needed and coveted understanding of deep learning.

**Bio:** Dr. Pimentel-Alarcon is an assistant professor in the Department of Biostatistics and Medical Informatics at the University of Wisconsin-Madison. His research focuses on robust machine learning methods to identify patterns in big and messy data. His work is grounded in critical applications related to ongoing interdisciplinary collaborations in precision medicine, biology, astro-informatics, computer vision, networks inference, and public health. He specifically examines robust machine learning of mixtures, and linear and nonlinear structures.



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