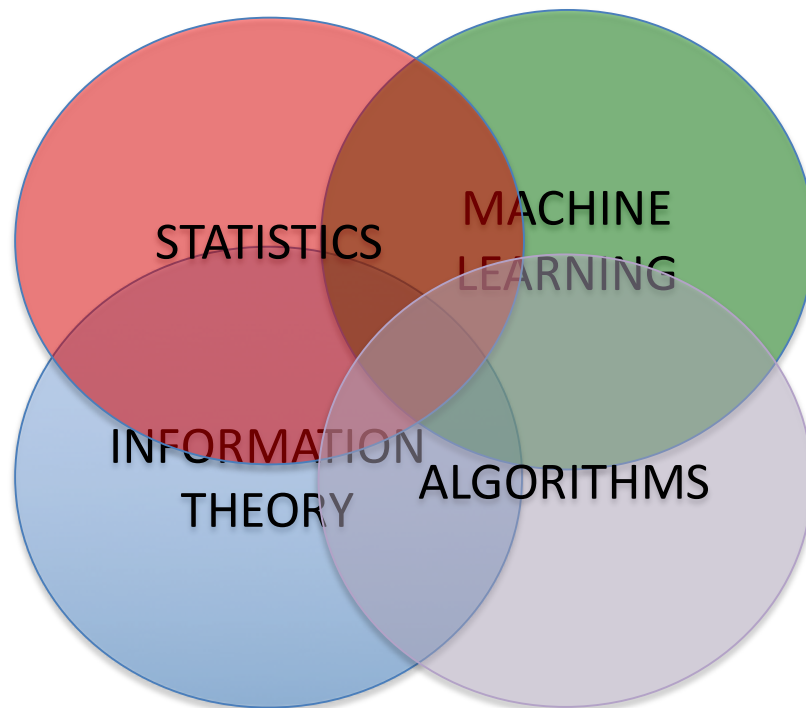


ECE6980

An Algorithmic and Information Theoretic Toolbox for Massive Data



This course will outline some of the tools developed across disciplines to analyze various aspects of modern data science. These include design of sub-linear and randomized algorithms, information theoretic lower bounds, and approximation theory.

We will focus on statistical primitives such as distribution estimation, distribution testing, and property estimation. Particular emphasis will be given to the interplay between resources, such as data, time, storage, and communication.

Prerequisites: Basic probability and statistics (Math 4710, STSCI 3080, ECE3100 or equivalent). Basic information theory helpful, but will be covered. Email instructor if unsure.

Instructor: Jayadev Acharya, 304 Rhodes Hall

Instructions: TuTh 1325 – 1440 hours