

**Mathematics and Machine Learning:** At the interface of Statistics and Computer Science, Data Science has becoming a fast-growing field with lots of demands in both industry and academia. This course introduces fundamental aspects of data science with main focus on algorithms for statistical machine learning and data mining. Specifics topics include linear and non-linear, supervised and unsupervised methods, such as decision trees, support-vector machines, nearest neighbor methods, bagging, and boosting. Dimension reduction techniques are also presented. The computational and statistical aspects of the algorithms will be addressed with real world applications and case studies.

Instructors: Dr. Yishi Wang; Dr. Cuixian (Tracy) Chen