EECS 551. Matrix Methods for Signal Processing, Data Analysis and Machine Learning

Prerequisite: EECS 351 or Graduate Standing. Min grade of "C". Students who have previously enrolled in 453 or 505 cannot get credit for 551. (4 credits)

Instruction Mode: Online – Synchronous

Theory and application of matrix methods to signal processing, data analysis and machine learning. Theoretical topics include subspaces, eigenvalue and singular value decomposition, projection theorem, constrained, regularized and unconstrained least squares techniques and iterative algorithms. Applications such as image deblurring, ranking of webpages, image segmentation and compression, social networks, circuit analysis, recommender systems and handwritten digit recognition. Applications and theory are covered in greater depth than in EECS 453.