EE615
Advanced Digital Signal Processing

Instructor:
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Textbook:
Simon Haykin: "Adaptive Filter Theory" Prentice Hall.

Additional Readings:
Bernard Widrow and Samuel D. Stearns: "Adaptive Signal Processing," Prentice Hall.

Prerequisites
Knowledge of linear algebra, elementary digital signal processing, and random processes.

Course contents:
Optimum and adaptive signal processing with applications. Wiener Filtering. Linear prediction. Method of Steepest Descent. Least Mean Square algorithm. Frequency domain algorithms. Least Squares Estimation. Recursive Least Squares algorithm. Applications: Adaptive equalization, echo cancellation, adaptive beamforming.

Lectures
MW 9:30-10:45 SAKAM B414

Office hours
To be decided

Grading:

Homework (once per week):	25%.
3 Midterms:	25% each.

Computer projects:
Some homework assignment may contain computer projects…