

EE P 596 Advanced Introduction to Machine Learning

Tuesdays, 600-950P ECE 045 Mohan, Karthik

Topics

- Introduction to Machine Learning
- Regression with real-world case studies
- Classification with real-world case studies
- Unsupervised learning techniques with applications
- kMeans, kNN, Dimensionality Reduction, Data Visualization
- Embeddings and applications in NLP, CV, etc
- Deep Learning and LSTM models with applications in NLP, CV and other areas
- Chat bot case study to understand the power, performance and pain points of current deep learning methods!
- Use of Cloud platform to use deep learning models on data sets

Assessment

- There will be a programming + conceptual assessment each week to aid both conceptual learning and hands-on experience with a data set/case study
- There will also be a final project put up as a Kaggle contest with teams to support learning in a collaborative team environment and gain deeper understanding on data processing, modeling and optimizing performance on real data sets.

Prerequisites

- Previous knowledge of linear algebra, calculus, and basic probability theory and statistics