Applied Machine Learning

Introduction

Machine Learning

- Algorithms that while executing some task
  - improve their performance
    - performance metrics
  - from experience
    - mechanism to incorporate experience

Applied Machine Learning

This course is about:

- Learning diverse types of machine learning algorithms
- Implementing machine learning algorithms
- Getting experience with popular tools for machine learning
- Apply machine learning algorithms to interesting problems

Applied Machine Learning

- Classification
- Regression
- High-Dimensional Classification
- Clustering
- Graphical Models
- Deep Neural Networks

Some Applications

- Estimate whether a patient may have some disease
- Recognize handwriting
- Find the most common topics in text
- Identify whether a banknote is genuine or forged
- Predict default of credit payments
- Predict body mass from external body measurements
- Determine what activity is the wearer of a smart device performing

Some Applications

- Predict location of music
- Identify similitudes between countries based in their job distributions
- Eliminate noise from images
- Build compressed representations of images
- Reconstruct an image from its compressed representation
- Identify objects in images

This course builds on

- Probability and Statistics
- Linear Algebra
- Calculus
- Programming Skills

You are expected to

- Watch videos
- Read supplementary material
- Complete programming assignments
- Complete quizzes
- Check the syllabus at the Coursera website for full details

Resources

- Team
- Office Hours
- Piazza forum
- Coursera website
  - Syllabus
  - Supplementary material
  - Videos
  - Programming assignments and Quizzes
  - Events
  - Announcements

Week 1

- Read the syllabus
- Only optional, but useful, assignments.

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