**OVERVIEW OF MACHINE LEARNING / NEURAL NETWORKS**

**Suggested prerequisite readings:**

● Linear Algebra Review (Stanford CS 229 supplementary notes):

<http://cs229.stanford.edu/section/cs229-linalg.pdf>

● Probability Theory Review (Stanford CS 229 supplementary notes):

<http://cs229.stanford.edu/section/cs229-prob.pdf>

● Python and numpy tutorial (Stanford CS 231n): <http://cs231n.github.io/python-numpy-tutorial/>

**Further references:**

**Books:**

Practical and applied

● *Elements of Statistical Learning* by Hastie et al.

○ More introductory level: *An Introduction to Statistical Learning* by James et al.

● *Data Mining* by Charu Aggarwal

Theoretical and research:

*● Pattern Recognition and Machine Learning* by Christopher Bishop

● *Machine Learning: A Probabilistic Perspective* by Kevin Murphy

● *Deep Learning* by Goodfellow et al.

**Online courses**:

Course from Caltech motivates statistical approach to ML and describes the methodology:

<http://work.caltech.edu/telecourse.html>

**Practical ML advice:**

Advice for applying Machine learning notes by Andrew Ng:

<http://cs229.stanford.edu/materials/ML-advice.pdf>

*A few useful things to know about machine learning* by Pedro Domingos:

<http://dl.acm.org/citation.cfm?id=2347755>

**Deep learning:**

Review article by LeCun, Bengio and Hinton:

<http://www.cs.toronto.edu/~hinton/absps/NatureDeepReview.pdf>

**Podcasts related to machine learning**

The Talking Machines, http://www.thetalkingmachines.com/ - with Harvard professor Ryan Adams, available

on iTunes

Linear Digressions, http://lineardigressions.com/ - with Physicist/Data Scientist Katie Malone, available on

iTunes