

Lecture 1 (Logistics)

1 Basic Info

1. Class timings: Tue, Wed, Fri (8:00 - 9:00 am)
2. Buffer days will be used to cover all 14 weeks in the reduced semester (about 6 classes)
3. Self-study material will be given in the same light

1.0.1 Who should do this course?

Anyone who is interested in knowing the basics of ML

2 Pre-requisites

1. **MTL106** (Probability and Stochastic Processes): needed to understand predictions and the statistics
2. ~~COL201~~ **COL106** (Data Structures and Algorithms): working with some common data structures and algorithms
3. **Linear Algebra** (mostly stuff covered in MTL101): needed to organise the data
4. **Calculus/Optimisations** (linear functions, convex functions, derivatives (partial and with-out), vector calculus): need to optimise stuff

3 Evaluation

1. Assignments
 - 4 (3 individual + 1 in pairs)
 - Last one is competitive
 - About 3 weeks per assignment
 - No copying of code allowed whatsoever, only discussing ideas is allowed
 - Language: **Python** (for deep learning, **Pytorch** will be required)
 - Weightage: 35%
2. Minor
 - Prof. Parag prefers one minor system even in the regular semester
 - Weightage: 25%

3. Major - weightage: 40%
(minor and major is open note, open book, open internet but proctored)

4 Resources

1. CS229 (Andrew Ng)
2. Pattern Recognition and Machine Learning (Christopher Bishop)
3. Pattern Classification (Richard Duda, Peter Hart and David Stock)
4. Machine Learning (Tom Mitchell)
5. Machine Learning - The Art and Science of Algorithms that make sense (Peter Flach)
6. Machine Learning - A Probabilistic Perspective (Kevin Murphy)

5 Enagagement

1. Class notes and videos
2. Course webpage
3. Piazza (preferred over the mailing list)