

COL 774

Machine Learning

Aug 10, 2021

Welcome

Introductory level course on Machine Learning

↳ overlaps { CO2341, ELL409,  
Any other pattern recognition  
course

Timing: - { Tue, Wed, Fri. 8:00 am - 9:00 am  
3-0-2 { Saturday { 3 weeks Before Mon }  
6 credits { 3 weeks After Mon }  
Self-Study

Who should do the course? :-

↳ anyone who is interested  
in knowing basics of ML.

↳ Logistically: - Open "all" CSE  
UGs

↳ ~~SIT/CSE~~  
[CSE/SIT/ScAI]

PG

↳ Few other exceptions for

Research student  
 For EE/Maths :- COL 341 Intro. to ML  
 (UGs)  
 EE ELL409 :- Rahul Garg

Pre Requisites :-  
 Programming & Background  
 { ① MTL 106 :- Probability & stochastic processes  
 ② COL 201 :- Data structures

Others :-  
 ① Linear Algebra :-  
 Vectors, matrices, dot product, matrix multiplication, eigenvalues, eigenvectors

② Probability & statistics :-

Random variable, Expectation, Standard Distribution, Variance, co-variance. --

③ Calculus/Optimization :-

Linear function, convex function, Derivatives, partial derivatives, vector/matrix calculus.

Evaluation :-  
 Programming

Assignments :-  
 44  
 35%  
 7, 9, 9, 10

Forst 3  
individually

Last assigned

[Memor:- 25% Major:- 40%]  
open notes / Book / Internet

4 No Discrepancy

[Python  
Pytorch]

~~Andek Policy~~ ~~at last 30% in~~

$\frac{3-0-2}{2 \quad 1 \quad 1}$  } 4 credits

Books:-  
Pattern Recognition & Machine Learning Christopher Bishop 2006  
Pattern Classification Duda & Hart 2000  
Machine Learning Tom Mitchell 1997/1998  
Machine Learning - The Art & Science of Algorithms that make sense Peter Flach 2010  
Machine Learning:- K. Murphy 2012

# A Probabilistic Perspective

Andrew Ng: (2008) Stanford

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Enrollment / Communication: I

- ① [Class: - Notes / Videos]
- ② [Comm website: - col 774]
- ③ Piazza: -  
↳ "Reply" col 774 @ course.