EE4016
Engineering Applications of Artificial Intelligence

Department of Electrical Engineering
City University of Hong Kong

Lecturer: H. C. So
Office: P6516 (YEUNG)
Tel.:   3442-7780
Email: hcso@ee.cityu.edu.hk
URL: http://www.ee.cityu.edu.hk/~hcso

Syllabus Outline

- <u>Essential Foundations</u>
  python and MATLAB, linear algebra and vector calculus, probability, optimization

- <u>Neural Network and Deep Learning</u>
  Perceptron, Neural Network, Deep Learning, Applications and Algorithms

- <u>Sparse Approximation</u>
  Truncated Singular Value Decomposition (SVD), Principal Component Analysis (PCA), Applications and Algorithms

Intended Learning Outcomes

On successful completion of this course, you will

- Learn the essential foundations of AI, including the applications of linear algebra and vector calculus, probability and optimization.

- Understand the know-how of representative AI applications, including the theory, principles and algorithms.

- Know how to realize algorithms to solve engineering problems with the use of MATLAB and/or python.

Teaching Schedule

Date	Week	Remark
30 Aug.	1	
6 Sep.	2	
13 Sep.	3	
20 Sep.	4	
27 Sep.	5	
4 Oct.	6	Assignment 1
11 Oct.	7	Test 1
18 Oct.	8	Project 1
25 Oct.	9	Assignment 2
1 Nov.	10	
8 Nov.	11	Assignment 3
15 Nov.	12	Test 2
22 Nov.	13	Project 2

Assessment

Coursework: 50%

- Assignments: 6%

- Projects: 14%

- Tests: 30%

Examination: 50%

To pass the course, at least 30% of coursework AND examination marks are required.

Act of academic dishonesty (e.g., plagiarism, submission for assessment of material that is not your own work, cheating in test or examination) will be liable to disciplinary actions.