**COURSE OUTLINE**

**Course Code : CSE 472**

**Course Title: Machine Learning Sessional**

**Level/Term : 4/2 Section: All**

**Academic Session : 2014-15**

**Course Teacher(s):**

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| --- | --- | --- |
| **Name:** | **Office/Room:** | **E-mail and Telephone: (optional)** |
| Khaled Mahmud Shahriar  Assistant Professor |  | k.m.shahriar@gmail.com, khaledshahriar@cse.buet.ac.bd |
| MadhusudanBasak  Lecturer | ECE/419 | [madhusudan@cse.buet.ac.bd](mailto:madhusudan@cse.buet.ac.bd), madhusudan.buet@gmail.com |
| NazmusSaquib  Lecturer |  | saquib2527@gmail.com |

**Course Outline :**

Sessional activities based on Introduction to machine learning; Learning algorithms: supervised, unsupervised, reinforcement, attribute based, neural network based, relational supervised and negative correlation; Genetic algorithm, genetic programming and evolutionary programming; Practical application of machine learning.

**Learning Outcomes/Objectives:**

After undergoing this course, students should be able to:

i. Be acquainted with some renowned machine learning techniques

ii. Implement some machine learning algorithms by themselves

iii. Use different third party machine learning tools

**Assessment**

Attendance, Class performance & Assignment: 70-80%

Quiz: 20-30%

**Text and Reference books:**

a. Machine Learning, ( by Tom M. Mitchell)

b. Learning From Data (by Yaser S. Abu-Mostafa)

c. Lecture notes of Andrew Ng

**Weekly schedule :**

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| Prepared by : |  |
| Name:Madhusudan Basak  Signature:  Date: 26/08/16 |  |

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| **Week No.** | **Assignment No.** | **Topic** | **Moodle Submission Deadline** | **Evaluation Date** | **Criteria** |
| 1 | 0 | Introduction |  | 27/08/16 | Individual |
| 2 | 1 | Decision Tree (50%) |  | 03/09/16 | Individual |
| 3 | 1 | Decision Tree (Final) | 09/09/16 (6PM) | 17/09/16 | Individual |
| 4 | 2 | Nearest Neighbor & Naïve Bayes (50%) | Class Time | 24/09/16 | Individual |
| 5 | 2 | Nearest Neighbor & Naïve Bayes (Final) | 30/09/16  (6PM) | 01/10/16 | Group |
| 6 |  | General Discussion |  | 08/10/16 | Individual |
| 7 | 3 | Artificial Neural Network (50%) | Class Time | 15/10/16 | Group |
| 8 | 3 | Artificial Neural Network (Final) | 21/10/16  (6PM) | 22/10/16 | Group |
| 9 | 4 | Ensemble Learning (50%) | Class Time | 05/11/16 | Individual |
| 10 | 4 | Ensemble Learning (Final) | 11/11/16  (6PM) | 12/11/16 | Individual |
| 11 | 5 | Improvement using ML tool (50%) | Class Time | 19/11/16 | Individual |
| 12 | 5 | Improvement using ML tool | 25/11/16  (6 PM) | 26/11/16 | Individual |
| 13 |  | Quiz |  | 3/12/16 | Individual |
| 14 |  | Reserve |  | 10/12/16 | Individual |
| 15 |  | Reserve |  | 17/12/16 |  |