ICS 352: Machine Learning

A. Course Description

Credits: 4

Prerequisites: ICS 240 Introduction to Data Structures

Lab Hours/ Weeks:

Corequisites: None

Lecture Hours/ Week :

MnTC Goals: None

This course presents the key algorithms and theory of machine learning. Students will examine supervised and unsupervised learning algorithms. And they will gain an understanding of machine learning foundational concepts used in artificial intelligence, statistics and data science. Topics include learning algorithms used in recent application as autonomous vehicles, google search, and Facebook photo tags.

B. Course Effective Dates: 05/03/2018 - Present

C. Outline of Major Content Areas:

See Course Description for major content areas.

D. Learning Outcomes (General)

1. Distinguish the basic theory used in machine learning.
2. Study and examine different learning approaches such as decision tree learning, Bayesian learning and artificial neural networks.
3. Implement and test different types of learning algorithms.
4. Formulate machine learning problems corresponding to different applications
5. Describe the application of learning algorithms to a wide range of data

E. Learning Outcomes (MN Transfer Curriculum)

This contains no goal areas.

G. Special Information

Note: Students are responsible to both be aware of and abide by prerequisites for ICS courses for which they enroll, and will be administratively dropped from a course if they have not met prerequisites.