

## **EENG 4010.004 and EENG 5940-004: Machine Learning with Applications to Engineering**

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Fall 2019  
Time: (T/Th) 10:00 -11:20 am  
Meeting Place: NTDP B242

Teaching Assistant: Ms. Srijita Mukherjee

TA Office Hours: M/W 10 AM -12 Noon

### Course Description:

This course begins with a quick tour of machine learning concepts such as classification, regression analysis, clustering, supervised and unsupervised learning, and neural networks. Then, it addresses how machine learning concepts can be applied to Engineering Applications. In particular, we focus on signal processing and wireless communications applications in domains such as Cognitive Radios, 5G networks, and Biomedical Signal Processing.

### Course Objectives:

Students will be able to (1) gain hands on experience in implementing machine learning algorithms programming using Python, (2) learn how to apply machine learning algorithms to real-world applications, and (3) demonstrate the value added by machine learning algorithms through project demonstration.

### Books:

1. Python Machine Learning by Sebastian Raschka
2. Artificial Intelligence: A Modern Approach, by Stuart Jonathan Russell and Peter Norvig

### Grading:

Homework (6)	30%
Project and Presentation	30%
Midterms (2)	40%

Academic Dishonesty: Any form of cheating in home works, assignments, and examinations will result in "F" grade for the entire course.

Disabilities Accommodation: The University of North Texas complies with Section 504 of the 1973 Rehabilitation Act and with the Americans with Disabilities Act of 1990. The University of North Texas provides academic adjustments and auxiliary aids to individuals with disabilities, as defined under the law. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring accommodation, please see the instructor and/or contact the Office of Disability Accommodation at 940-565-4323 during the first week of class.