SEMINAR ANNOUNCEMENT

DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING
Faculty of Engineering
Website: https://www.eng.nus.edu.sg/ece/

Area: Communications & Networks

Host: Assoc Prof Tham Chen Khong

TOPIC	***:***	**Predictive Maintenance using Partially Observable Markov Decision Processes**
SPEAKER	***:***	**Mr Naman Sharma** **Graduate student, ECE Dept, NUS**
DATE	***:***	**10 July 2019, Wednesday**
TIME	***:***	**10am to 11am**
VENUE	***:***	**E5-02-32, Engineering Block E5, Faculty of Engineering, NUS**

ABSTRACT

Predictive Maintenance aims to minimize the downtime due to maintenance of machinery, while at the same time minimizing the risk of unforeseen failures. With the increase in sensor information now available from machines, we can predict the health of a machine and take an optimal decision allowing the machines to be used efficiently. The seminar will introduce a framework for performing the predictive maintenance task using Partially Observable Mardov Decision Process (POMDP) model. The POMDP model will allow us to determine the optimal time to perform maintenance. The seminar will describe how Support Vector Machines can be used to parametrize the POMDP model. Further, a particle filter approach will be discussed to update the POMDP model parameters in an online fashion. Finally a machine simulation will be used to analyze the performance of the framework.

BIOGRAPHY

Naman Sharma is pursuing his Master's of Engineering under Assoc. Prof. Tham Chen Khong at ECE, NUS. His research has been aimed at developing a framework to allow predictive maintenance using POMDP models updated in an online manner.