UNIVERSITY OF CALIFORNIA
UCMERCED

Syllabus for EECS 283 Advanced Topics in Intelligent Systems

Spring 2020
Instructor: Shijia Pan

Course Description	Intelligent systems have become an important part of our everyday life. Smart devices and systems become more and more pervasive. The development of intelligent systems rely on multidisciplinary research, which include and not limited to artificial intelligence, machine learning, networking, robotics, security, and signal processing. This class will review the state-of-the-art in intelligent systems and help students prepare for research in intelligent systems. Topics will vary from semester to semester.
Textbooks and Other Required Materials	
Course Objectives/ Student Learning Outcomes	A significant part of this class is an individual or a group project, which includes project proposals, presentations, and a project report. The choice of a project topic (with instructor approval) is up to students; however, the project must exhibit the interplay of at least two of the main themes (inference, networking, and control).
Prerequisites by Topic	linear algebra, probability, embedded systems (optional),
Topics	○ Introduction to cyber-physical systems (CPS) ○ Communication and networks ○ Localization and target tracking ○ Synchronization and calibration ○ Sensors ○ Mobile sensor networks ○ Signal processing for CPS ○ Machine learning for CPS ○ Networked control systems ○ Security and privacy
Assignment and Grading	10% attendance 10% class interaction 30% homework 50% final project