

## Computational Methods and Modeling for Engineering Applications

### Course Project - Adaptive Cruise Control with Cloud Connectivity

Objective Use MATLAB to develop and implement an adaptive cruise control system for vehicles that automatically adjusts the speed to maintain a safe distance from vehicles ahead. The speed information has to be uploaded on the cloud to support connected vehicles and intelligent transport.

Hardware Arduino uno x 1, button x 5, distance sensor x 1, 4 digit 7-segment anode display x 1

Description Implement an adaptive cruise control system using the Arduino UNO board. The system is controlled by five buttons of (1) Set\_speed, (2) Adaptive\_speed, (3) Cancel, (4) Increase\_speed, and (5) Decrease\_speed. After power on, the display has to show the initial speed of 0.