CSCE 936: Cyber-Physical Systems HW #1

Assigned: 2018-08-21
Due: 2018-08-28 uploaded to Canvas before class

Introduction

The objective of this homework is to familiarize you with what CPS is, and to introduce you to the literature. I also anticipate that you’ll do #1 and #2 below before class on Thursday as it will prepare you for the next two lectures.

What to Do

All of the required readings are in Canvas in the “assignments/hw1” folder.


   (a) Please read this before class on Thursday.


4. Answer the following questions (typed):
   (a) What is a CPS?
   (b) What is CPS research?
      i. How is it different from research areas robotics, embedded systems, control, real-time systems, and research sub-categories in those areas? Or is it any different?
   (c) Define “cyber” for CPS and give examples. NOTE: there is NO clear definition in the community so you won’t be wrong...just be thoughtful in your answer. We will discuss this more in class.
   (d) Define “physical” for CPS and give examples. NOTE: there is NO clear definition in the community so you won’t be wrong...just be thoughtful in your answer. We will discuss this more in class.
   (e) What is required in the development of new models for CPS?

What to Submit

Please submit the following, on Canvas, by the specified time above:

1. (100 points) A PDF document with your answer to the questions above. Please observe the following:
   • Homework must be typed
   • Please limit this homework to 1 full page. I will dock points for going too far under or over.