

CSCE 936: Cyber-Physical Systems HW #1

Assigned: 2019-08-29

Due: 2019-09-12 upload to Canvas before class

Homework Overview

The idea with this homework is to get you reading the CPS literature. If you're not familiar with reading research papers, read: S. Keshav, "How to read a paper," ACM SIGCOMM Computer Communication Review, vol. 37, no. 3, pp. 83–84, 2007 (it's hosted on the class Canvas site).

Preliminaries

Read these to get an overview of CPS and some of the issues therein. You can get these papers from the class Canvas site.

1. Read: E. A. Lee, "The Past, Present and Future of Cyber-Physical Systems: A Focus on Models." Sensors, 2015
 - (a) Please read this before the next class.
2. Read: W. Wolf, "Cyber-physical Systems," Computer, vol. 42, no. 3, pp. 88–89, 2009.

HW #1

1. Select two CPS papers that interests you and read them. Please select your papers from one of the venues below:
 - (a) International Conference on Cyber-Physical Systems (ICCPs)
 - (b) ACM Transactions on Cyber-Physical Systems
2. Prepare a one page summary for each paper
 - (a) 1/2 page on paper content, sufficient for you to remember the paper, including
 - i. General topic of the paper
 - ii. Context (application area, related work, etc.)
 - iii. Technical contribution and how it relates to CPS
 - iv. Method used, experiments, evidence to support contributions
 - A. what was the CPS used?
 - (b) 1/2 page critique:
 - i. What assumptions do the authors make?
 - ii. Were the contributions supported? Were they flawed? (In what systems or applications do they apply?)
 - iii. Any obvious future work?
 - iv. Any novel methods or techniques compared to other papers?
 - v. Did you learn anything? Are there papers with a better example?
 - vi. Does anything from the paper relate to your class project? Your other research?
 - vii. Has the work been discovered or applied to other fields? Should it be?
 - viii. Personal notes for yourself (really great figure, interesting explanation approach, etc.)

What to Submit

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

1. **(100 points)** A PDF document with summaries. Please observe the following:
 - Homework must be typed