## CPS 364X: CYBER-PHYSICAL SYSTEMS & APPLICATIONS – SPRING 2023

Instructor: Aditya Balu Time: TR 2:10-3:25PM

Co-Instructors:

Location: 2228 Howe Hall

i. Adarsh Krishnamurthy
 ii. Soumik Sarkar
 iii. Cody Fleming
 Prerequisites: ENGR 160 or Equivalent, MATH 267, Python

**Project Based Course; Course Description:** Fundamental principles of cyber-physical systems and their system-level applications at an introductory level; computer programming of physical systems; data communication; control loops; More information on cyber-physical systems can be found at <u>CPS Minor</u> website.

Note: Knowledge of Python may be demonstrated by having taken course using Python at ISU or elsewhere, including other CPS courses ME 280X, CPR E 287X, or independent learning.

- Projects:
  - Sensing: Programming of physical systems: Additive Manufacturing
  - Sensing + Communication:
     Object-detection and tracking using multiple cameras
  - Sensing + Communication + control: ROS-based Path Planning using turtlebots.









