

CMPSC 293S Winter 2019

Internet of Things

1. Logistics

Use Piazza to find project partners. Groups must consist of 3-4 people. Two person projects are NOT encouraged as you are unlikely to achieve the goals. We use Piazza to form teams.

2. Timeline

Team Formation & Topic Definition by: 1/13 (see below)

Project Start: 1/16

Halftime presentations: 2/13, in class: each group gives a 7-8 minute presentation explaining the project and current status.

3/10 (midnight): Project code, report and final presentation must be uploaded into Gaucho Space

3/11 & 3/13 Project Presentations, 15 minutes per team including time for Q&A

3. Project Topic(s) and Scope

Each group must define their own project that must be within in the area of IoT.

Each project must have the following components:

- I. Collection and storage of data from several sensors that is timestamped
- II. Continuous / periodic processing of the data data stream in I. This could be aggregation, filtering, or smoothing of the data; detection of anomalies or outlier detection, combination with other publicly available information, e.g. weather information. Detection of data dropout (e.g. an expected but not received data point) is also desirable.
- III. Display and storage of the derived information / insights.
Typically, this will be on a dashboard-like web page but you can also use other forms, e.g. you could do a mobile app to do data display.

As data sources you can pick any publicly available data sources, or, if you so choose, you can use your own sensors if you choose to do so. The instructors provide access to a data base dump for smart farm related data as well as

energy related data.

For the storage and processing of the sensor data, you might find a Cloud IoT backend such as **Azure's IoT Hub** or **Amazon's AWS IoT** useful. *You should not pay for them, there are free credit offers available for students and the instructors can get you additional free credits if necessary. /*

4. **Project Definition**

Write up a one-page description of what you would like to do in your project. Define a few milestones. The description should be a functional description of what (sensor) data you will be processing and what you hope to accomplish. If you already have a more detailed idea of how you will technically implement your ideas, you can include that as well. You can use the template provided in Gauchospace. The project definition document has to be **uploaded by 1/13. You have an automatic extension until 1/20 (no further extensions).**

Completed Projects Due

Sunday, March 10, 2019 (midnight PST)