**Data streaming and Analytics in Smart homes:**

Project Idea: To create a smart home infrastructure in which data moves from the homes and are monitored to find anomalies or perform analytics, to give back the users with statistics of his daily activities like water consumption, electricity usage, etc. With this we could help provide a better life for the people living in a community.

With the rapid growth of CPS / IOT, there has been a wide spread deployment of sensors to monitor our daily lives. Smart homes and cities have come into existence, with widespread deployment of sensors for data monitoring. Huge volumes of data are being sent out from these sensors, which are deployed in homes and communities. Monitoring the data collected by the sensor is of prime importance, as the sensors may have collected some data of importance.

**Some examples of important data collection applications include:**

1. Air quality monitoring: put some material here for the data from the last semester.
2. Improving life quality / Alerting user with his habits:

**Some related work:**

* Pecan Street: This has a paper which I will share. Basically Pecan Street began at UT Austin, which aimed at collecting data from homes to monitor their life styles. Monitoring included water meters, energy meters, etc. It provides a SQL database from which all the data of the homes can be collected for data analytics.
* Array of things: An ongoing project in Florida to monitor the air quality (Please put some paper material)
* Air quality monitoring in Minnesota (use last year report to copy things). We can add some anomaly detection things here.