Many researches have been done to identify these demand loads patterns. Candanedo et.al.(2017), Wang et.al. [2015], Arghira et.al.[2012], Cetin et.al.[2014], and Kavousian et.al.[2013], they all worked for predicting appliances energy use into a low energy house. They have used wireless sensor data for environmental assessments inside the house and outside the house, and smart electric meter’s data to analyze energy demand loads. All the works above tried to design a load demand model for predicting future electric use into a home using big data driven analysis.

On the other hand, many studies have been undertaken to analyze occupant’s behaviors into home or office in order to rank the appliance efficiency in household use [Hong et al., 2016 Kavousian et al., 2015 K.S. Cetin 2016] . These works tried to analyze occupant’s behaviors in home appliance using during their staying at home or office. They used regression analysis and probabilistic analysis to identify the load patterns in different behaviors of occupants. In addition, some works were done to predict accurate occupancy numbers by analyzing the appliance use behaviors (Candanedo, 2016)

However, all these works above proved one common thing that, appliance energy use in home or office depends on many factors, such as occupant’s numbers, internal and external environment of home or office, building architecture, geo-location of the building etc. Without counting these factors it is not possible to estimate the appliance energy use in a home or office.

In this study, we have used environmental wireless sensor data, such as humidity, temperature, wind speed, dew points and visibility in order to understand the internal and external environments of the building and energy use data from smart electric meter. The experimental dataset is a secondary dataset, which is collected from UCI machine learning repository for research purpose abiding by the copyright instructions. Author of the dataset is Luis M. Candanedo [1].