**Detecting Human behaviour/habits using sensors and machine learning**

**Introduction:**

With the growing number of elderly people leaving alone, it is important to know their wellbeing without interfering into their daily life’s. This is now possible thanks to machine learning and internet of thing (IoT), where an IoT device can be placed on a target person to collect data for predicting abnormal behaviour to alert authorities for immediate medical attention. Further, this technology has been adapted by large corporation like Apple in their wearable electronics such as smart watch, that can monitor heart rate, location, hard impacts and alert emergency services. Furthermore, such IoT implementation can be helpful to detect wear level on large infrastructure such as bridge, buildings, etc. to avoid catastrophic failure using sensor nodes in a mesh network. Also, this technique can be cost elective to determine when the infrastructure needs maintenance done by visualizing the data and looking for abnormalities in reading. In this day and age, it is difficult for a medical practitioner to keep track of their patients and check if they following the recovery guideline by the doctor. Such technology can help to determine how often the patient has been physically working out or detect bad behaver patterns such as amount of sugary drink the person has been drinking. Also, such device can be helpful with human health research, by collecting information from various people across the world comparing to find similar traits that can result in fast diagnosis and recovery avoiding certain death. Besides that, machine learning can save countless number of human life’s by detecting driver fatigue and awareness using Electroencephalogram (EEG) and cameras for facial analysis.

The goal of this project is to make IoT application to recognise human activity by practising software development life cycle.

- SCRUM Sprint and Design: give description of each key component and system architecture (can follow the given diagram but can’t be exactly same). Give description of the backlog, each sprint created and weekly sprint progress chart (burndown chart).

- Implementation: description of technologies and techniques used with respect to each of system components/functionalities described in the Design.

- Evaluation: description of experiments and discussion of results

- Discussion: Challenges, limitations and open issues.

- Version Control: give screen shop of the GitHub version control log –

Summary/conclusion: summary and/or concluding remarks –

References including Bitbucket project repository/wiki