

KE5208: Sense Making and Insight Discovery

Continuous Assessment (40% of final grade)

- Refer to IVLE's 'project' folder for instruction
- In team of 4 persons (except one team with 5)
- form yourselves into team and come up with a team name
- Nominate your team's coordinator
- Coordinator submit your members' names + your team's name to me by next Wednesday (11 Oct 2017)
- Those team with less than 4 members will be randomly assign with those unbundled students
- The list of teams will be released in IVLE 'project' folder by next Friday (13 Oct 2017)

Guideline

- **Objective:** Make sense of data from modality sensors for robust human action recognition.
- **Dataset:** Human activity dataset
 - **Sensor:** RGB camera, depth camera, inertial sensor, microphone.
 - **Dataset:** Dallas dataset, it contains 27 activities performed by 8 subjects (4 females and 4 males). Each subject repeated each activity 4 times. The dataset includes 861 data sequences, available at <http://www.utdallas.edu/~cxc123730/UTD-MHAD.html>
- **Task:** Develop algorithm to perform activity classification (**at least 3 categories**) using either single sensor or fusion of multiple sensors. Note that the whole dataset contains 27 activity categories.

Evaluation

- Group presentation in week 5
- All group members must present during presentation, the presentation should cover
 - Objective and literature survey
 - Technological approach and innovation
 - Experimental results and performance evaluation
 - Demo (optional)

Appendix: Dataset

- The dataset files can be downloaded here. A MATLAB package is also provided which allows one to view and use all the data modalities.
 - [[RGB_Data.zip \(.avi\)](#), 1.1GB]
 - [[Depth_Data.zip \(.mat\)](#), 124MB]
 - [[Skeleton_Data.zip \(.mat\)](#), 15MB]
 - [[Inertial_Data.zip \(.mat\)](#), 5MB]
- The dataset is named in the following format: aXX_sYY_tZZ_sensor.mat (such as a1_s1_t1_depth.mat)
 - XX: action id;
 - YY: subject id;
 - ZZ: time id;