ISSM CA: Sensor data sense making

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1. Scope

In this assignment, you can apply what you have learned in class to a problem of your interest.

- Restriction: Data must be related to sensors. This is to differentiate this assignment from other CAs in this certificate. There is no restriction on the machine learning methods used in this CA. You can use machine learning methods studied in previous two courses in this CA. Topics of interest include, but are not limited to:
    - GPS trajectory, traffic datasets, http://www.cs.colostate.edu/~skmishra/research.html
    - Wearable sensor for human activity dataset, http://www.utdallas.edu/~kehtar/UTD-MHAD.html
    - Human gait dataset, http://islab.hh.se/mediawiki/Gait_database
    - Anomaly detection dataset, http://ødds.cs.stonybrook.edu/
- Group-based assignment: up to 4 students per team.
- Fill in your team name at http://bit.ly/2Lcxj0B

2. ISSM CA Marking guideline (total 15 marks)

- Technical approach (10 marks): An innovative approach, which addresses a useful problem statement/use-case and is justified in experimental results.
- CA report writing (5 marks): A concise and clear-written report.

3. ISSM CA report format

Title	Provide a title for your approach (Don't use "CA report" as title).
Abstract	Briefly describe your problem statement and approach
Introduction	Describe the problem you are working on and why it is important.
Related work	Discuss references that relate to your project. What are baseline approaches address your problem statement?
Proposed approach	Details of your proposed approach on how to address your problem statement using the dataset.
Experimental results	Dataset, performance metric, experimental setup, experimental results and comparison.
Conclusion	Summarize your key results, limitations, future works.
Report template	• Latex template CA report template.zip (available in ISSM Day 2 folder) • Recommended online writing tool, Overleaf, https://www.overleaf.com/learn/latex/Tutorials • Word is not allowed.
Report page limit	• 8-10 pages (note that the report template is two-column format)

4. Submission files

	Submission folder in LumiNUS	Your submitted files
ISSM CA submission	\\ISSM CA submission	• CA Report file in pdf format (exported from Overleaf). • CA Report Latex source files including all template files, figures, etc (exported from Overleaf) • Demo file (if any), such as an animation file (gif, etc) • Source code • Dataset (If the dataset is too large, say, >100MB, you can just indicate the dataset source (e.g., its website) in your CA report, without uploading the dataset into LumiNUS) • Zip everything into a single ZIP file (one zip file per team)
Peer evaluation form (for 3 CAs in the whole certificate)	\\Cert peer evaluation form submission	• Fill in the form "IS Graduate Cert Pattern Recognition Systems Project Peer Evaluation.docx" (available in ISSM Day 2 folder)
Individual project report (for 3 CAs in the whole certificate)	\\Cert individual report submission	• Page limit: Up to 2 pages • Template refers to "IS Graduate Cert Pattern Recognition Systems Project Individual Report.doc" (available in ISSM Day 2 folder)

5. Submission deadline

- Full-time students: 30 September 2019 (Monday), 2359hrs.
- Part-time students: 31 October 2019 (Thursday), 2359hrs.

(strict deadline, LumiNUS folder will be closed.)