

ASSIGNMENT 2: SENSOR DATA COLLECTION

CS7NS4, Trinity College Dublin

Deadline: 22:00 18/10/2019

Submission: Submit via blackboard, 3 things:

1. the short assignment report in pdf or word
2. the sample data in CSV format
3. Include your source code (.zip), including instructions of how to run it.

Goals:

- Learn how to collect urban data
- Reflect on the data gathering theory covered in class
- Start building a practical application

Task 1 – Collecting data – 6 Marks

For this task, you are required to gather data from a sensor that is available to you (for example, a sensor on your smart phone). You must ensure that you will have access to the sensor until the end of the semester to allow you to test and demonstrate your work. If you do not have access to any sensor, contact the lecturer immediately.

You are free to use any sensor and technology of your choice (cf plagiarism and code reuse below). You might want to consider what you want to do for assignment 3 as the assignments will build on top of each other

Task 1 mark allocations	
Technical diagram of the approach, including technologies used	2
Ability to collect data (submit some the data collected. This will be verified during the final demonstration, if it is not working then marks will be reduced)	3
Sample of data (CSV file) of at least 1,000 points	1

Task 2 – Discussion – 2 Marks

Evaluate the data that you have collected with regards to the data challenges discussed in class (see also Figure 1 in [1]). If you cannot find any problem with the data that you collected (unlikely!) or have not managed to collect data, you can use an existing dataset of your choosing.

Task 2 mark allocations	
Identification of the relevant challenges on the dataset	1
Discussion as to how they could be solved	1

[1] Bahador Khaleghi, Alaa Khamis, Fakhreddine O. Karray, Saiedeh N. Razavi, *Multisensor data fusion: A review of the state-of-the-art*, Information Fusion, Volume 14, Issue 1, 2013, Pages 28-44,

Plagiarism and code reuse

This assignment is to be performed individually. Students are allowed to discuss their understanding of the assignment instructions, and their general approach. They are not allowed to share or look at each other's code. Sharing code will result in reduced marks for all students involved and the consequences described in the College rules [2]. If you discuss an assignment with fellow students, then you must write the names of the students in your report. All students must complete the College's online seminar about plagiarism before submitting any assignment.

Similarly, students are allowed to look at existing code, but should either:

- Reuse the code (potentially with small adaptations) and identify clearly in the report which components or pieces of code come from existing code. In this case, students should demonstrate significant effort in addition to the existing work, potentially by going beyond the requirements of the assignment.
- Or use the code only as inspiration and write their own code without looking at the online code.

In either case, students should list any piece of code consulted (with a link if appropriate) in their report

[2] <http://tcd-ie.libguides.com/plagiarism/levels-and-consequences>