**Sensor Fusion Algorithm**

Course: SYSC5709F

This program is designed to compute the fused value by combining the input from multiple sensors provided at a given time of the day. Here, the sensors are providing individual values for specific times, which can be processed by the sensor fusion algorithm to compute a single correct value for distinct time values. The data is provided by the client in a .csv file, in which 3 parameters are specified, i.e., time, sensor name and temperature measured by the sensor at provided time.

Dependencies: CYGWIN, GSL, Windows/Linux Computer

How to run?

1. Install CYGWIN to the computer. (For windows computer only refer: <https://www.cygwin.com/> )
2. Install GSL Library (Reference: <https://www.gnu.org/software/gsl/> )
3. Clone the project in your computer, using cgwin run command “git clone <https://github.com/amuleengulati/SensorFusionAlgorithm>”
4. Change directory using “cd SensorFusionAlgorithm”
5. Run the command “make clean; make all”
6. This will generate 3 folders

* Bin – executable files
* Build – binary files
* Data/output\_data – Folder to store output file

1. Relocate to bin directory “cd data/input\_data” and add input file.
2. Now go to bin folder “cd ../../bin”
3. Run executable file using command “./main” to run main file
4. It will generate output in data/output\_data folder.
5. For unit testing, run command “./test” which will provide results onscreen To store the result run “./test > ../data/output\_data/unit\_test\_result.txt” and the result will be same as above folder

Files Structure:

Readme.md

makefile

documents [This folder contains all the documentations of project]

src [This folder contains the source code for the implementation]

test [This folder is for testing utility]

src[This folder contains unit test file]

include [This folder contains the header files for the source files]

data [This folder contains the input/output files ]

input\_data [This folder contains the input file in csv format]

output\_data [This folder contains the output file in txt format]

build [This folder will be generated automatically when the program is compiled, and the object files will be stored in this folder]

bin [This folder will contain executables and it will be generated once above stated procedure is followed]

lib [This folder contains GSL library]

Standard Input file: input.csv



Standard Output file: output.txt

