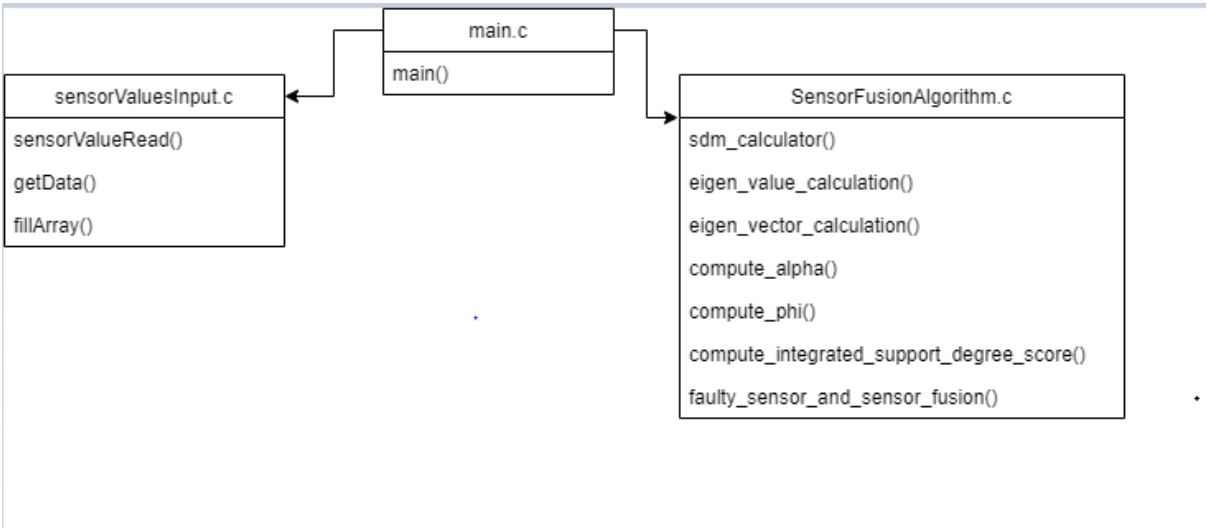
User Manual



This program reads sensor readings for different timestamps and performs a sensor fusion algorithm to get a reliable reading. The code architecture as shown above consists of a three main parts. One part reads the data from a .csv file and formats them to process for fusion. sensorValueRead() reads data from the .csv file, getdata() parses and tokenizes each line read from the file and fillarray() fills the sensor values in a 2-D array with each row containing sensor values for each timestamp.

The second part is the Sensor fusion algorithm. The fusion algorithm is run on a set of sensor values for a particular timestamp. This algorithm is called in the main.c to run for each timestamp provided in the input file.

The third part is the main.c which calls all the functions in order to get the faulty sensors, fusion value and produce output in a file.

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

SensorFusionAlgorithm.c, main.c, sensorValueInput.c

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

SensorFusionAlgorithm.h, input.h

input [This folder contains the input file which will be given to the program in csv format]

input.csv

output [This folder will be generated automatically when make statement will be used]

output.txt

build [This folder contains the object files will be stored in this folder]

SensorFusionAlgorithm.o, main.o, sensorValuesInput.o

bin [This folder will contain the executable will be stored in this folder]

executable

test [This folder includes the test cases for testing the software]

data/testresults.txt, include/input/input.csv, include/test.h, src/main_test.c, src/testcases.c