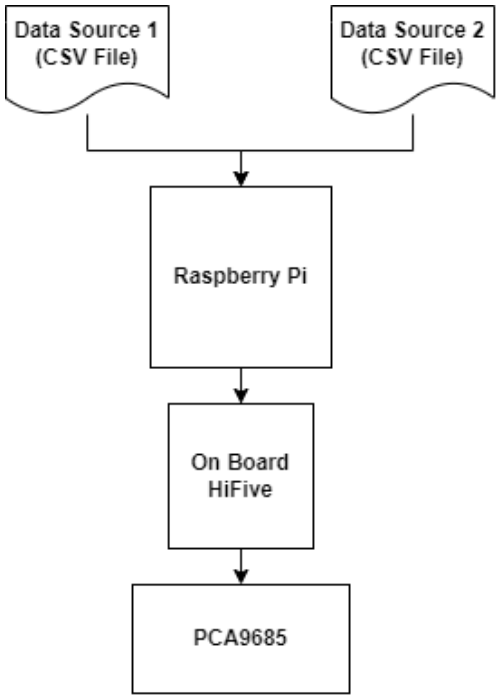
Bonus Milestone: Upgrade the Security of Self-Driving Car.

Objective:

The objective of the bonus milestone to add an additional layer of security in the self-driving car project by computing the action from two individual input data sources to detect any discrepancies in the input data and halt the car if such a discrepancy occurs. Therefore, if any adversary can cause a change in the data by any sort of security attack, the car will detect it and perform a “Emergency Route” operation.



Note that, the discrepancy must be computed using HiFive, since the computation for driving the car is happening in the HiFive board and we are using Raspberry Pi to process the CSV file and to send the data to HiFive. Thus, data can be compromised from Raspbery Pi as well.

Hint: Use two UART channel to read the data parallelly and compare them and if discrepancy found, execute a pre-fixed emergency route of your choice.

Required CSV data are provided in Canvas: EECS 388: Embedded Systems LEC > Files > Lab Material > Source Code > Bonus_ML_Data.tgz

CSV File Related Python Tutorial: https://realpython.com/python-csv/

Point Distribution:

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