1. **X\_train.csv (Train data)**

Header of the X\_train.csv file represents MAC addresses of BLE transmitters. There are 17 BLE transmitters in total as shown in table below.

|  |  |
| --- | --- |
| No. | MAC Address |
| 1 | CD4533FFC0E1 |
| 2 | D2B6503554D7 |
| 3 | D7EE034361F8 |
| 4 | DD697EA75B68 |
| 5 | DF231643E227 |
| 6 | E43355CA8B96 |
| 7 | E6D9D20DD197 |
| 8 | E8FD0B453DC4 |
| 9 | F1307ECB3B90 |
| 10 | F1EDAF28E08A |
| 11 | F69A86823B96 |
| 12 | F8EE8B0847A4 |
| 13 | FDAE5980F28C |
| 14 | EC72840D9AD3 |
| 15 | E96AF2C858BA |
| 16 | E13B805C6CB0 |
| 17 | FB2EE01C18CE |

Following table shows one sample of BLE beacon’s fingerprint.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| CD4533FFC0E1 | D2B6503554D7 | D7EE034361F8 | DD697EA75B68 | … | FB2EE01C18CE |
| -83.8529 | -87 | -66.0345 | -86.7917 | … | NaN |

* -83.8529 is signal strength of BLE beacon seen by BLE receiver CD4533FFC0E1, unit is in dBm.
* -87 is signal strength of BLE beacon seen by BLE receiver D2B6503554D7, unit is in dBm.
* NaN represent no signal received, or signal from BLE beacon is too weak to be detected. Typical signal strength is between -40dBm (very near to receiver) to -98dBm (very far from receiver).

1. **y\_train.csv**

y\_train.csv records the corresponding location where each sample is collected. The location is recorded in PinId such as V1\_1, V1\_10 etc as shown in table below.

|  |
| --- |
| PinId |
| V1\_1 |
| V1\_10 |
| V1\_11 |
| V1\_12 |
| V1\_13 |
| V1\_14 |

1. **PinInfo.csv**

pinInfo.csv is a dictionary to the actual (x, y) coordinate of each pin in meters. There are 43 pins created in total, however not all pins are calibrated with data.

|  |  |  |
| --- | --- | --- |
| pinId | x | y |
| V1\_1 | 10.7479 | 2.29302 |
| V1\_10 | 11.1766 | 5.29753 |
| V1\_11 | 14.0636 | 5.31235 |
| V1\_12 | 17.1732 | 5.21713 |
| … | … | … |
| V1\_41 | 8.19409 | 2.27991 |