Prognosticator

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Data Cleaning & Preprocessing

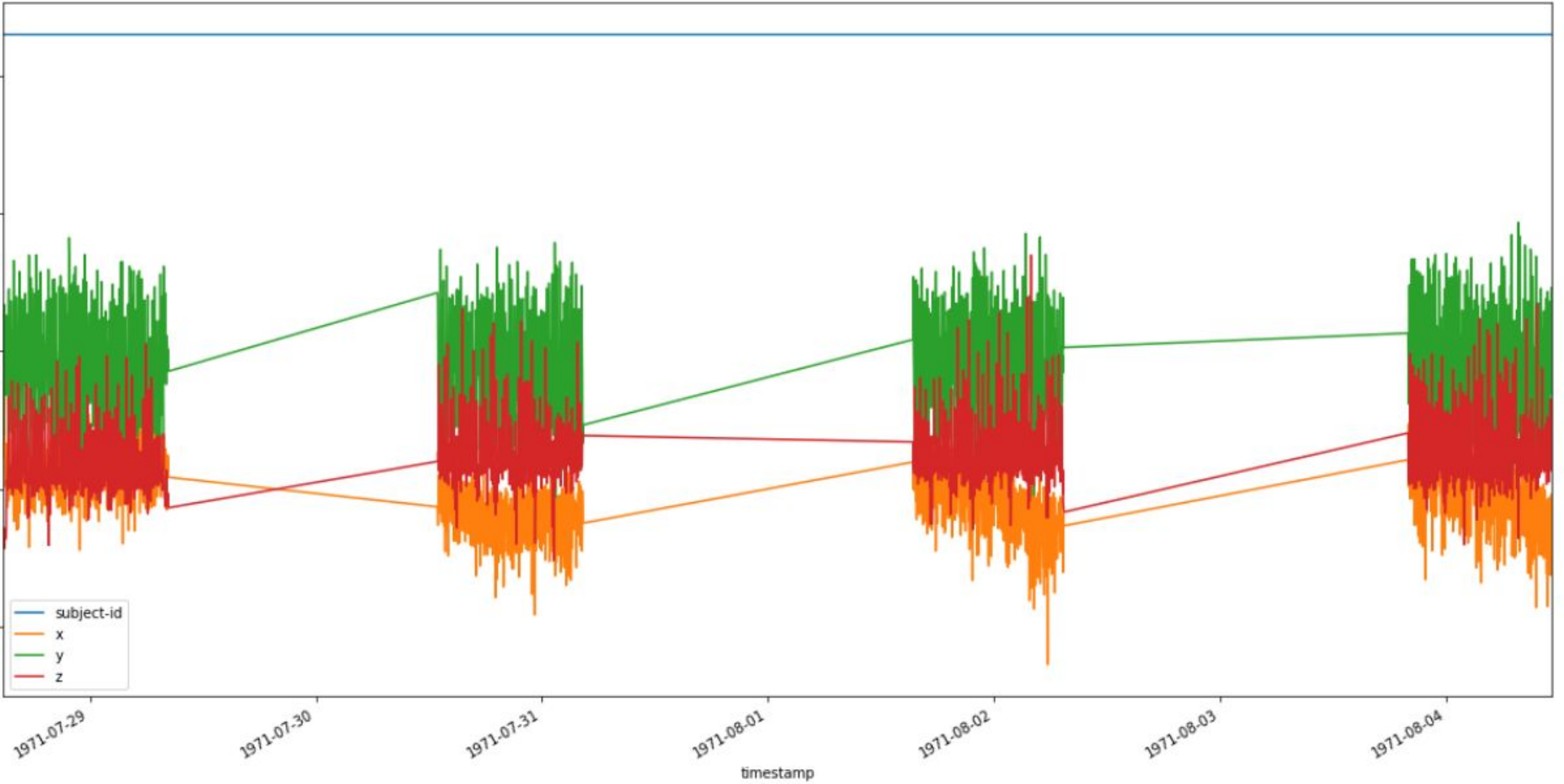
Data Cleaning & Preprocessing

- Removing semicolons at the end of the row.
- Removed spaces.
- Converted Unix epoch timestamp to human readable datetime

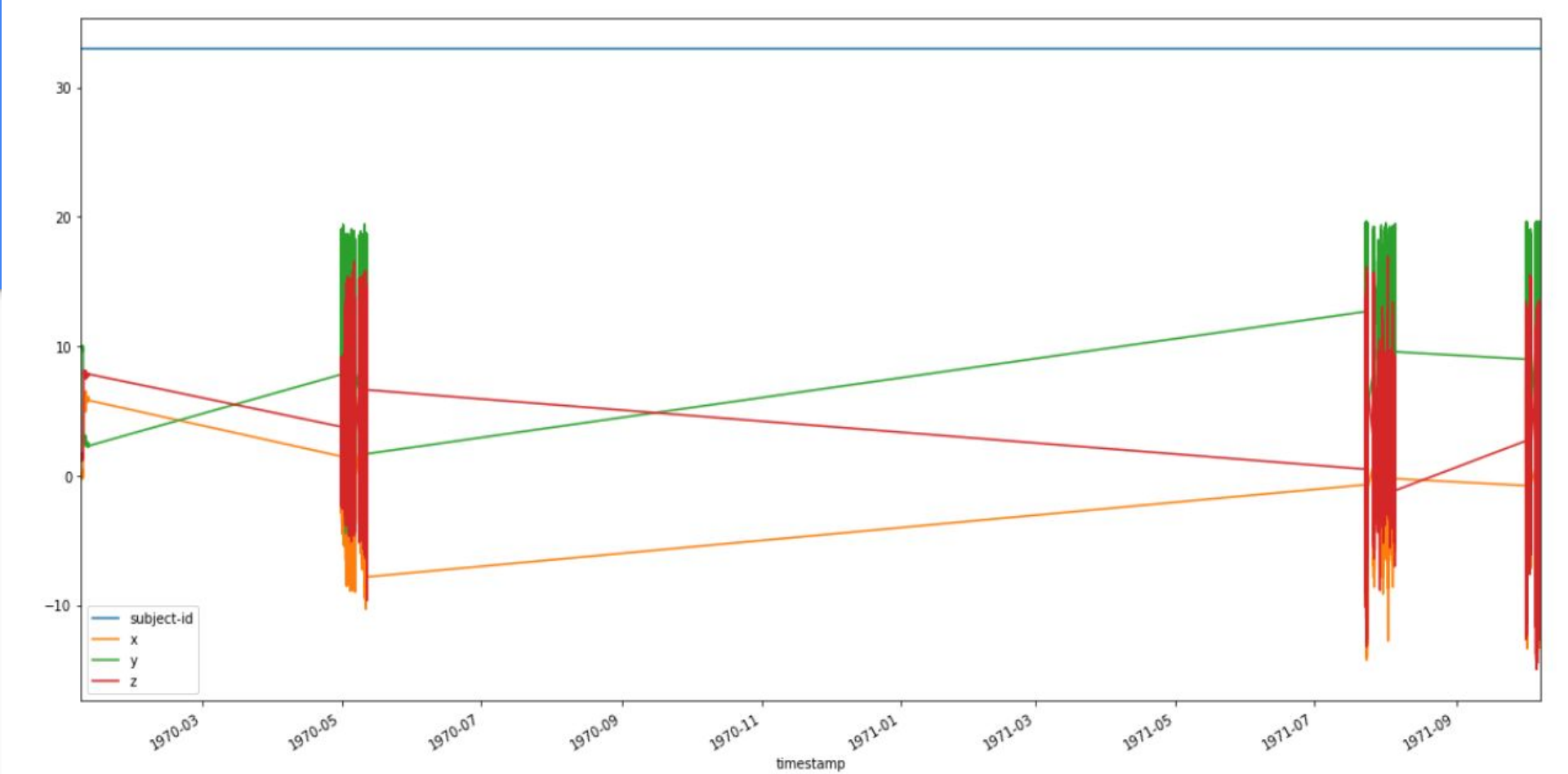
Data Visualization

Data Visualization

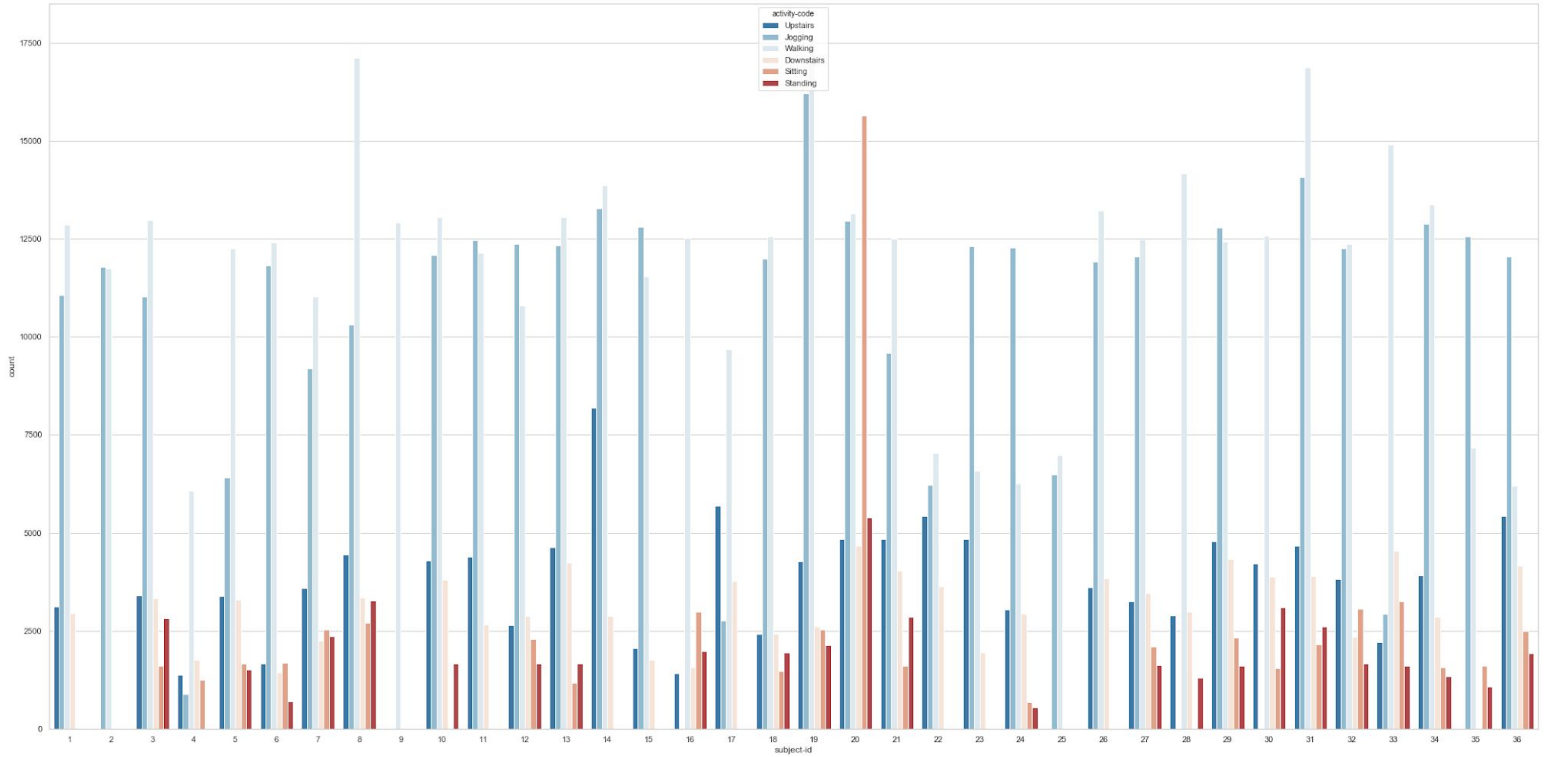
- Value count for each of the subjects
- Value count for each of the activities
- Timestamp vs Activity-Code for individual Subject-id
- Subject-id vs Activity-Code count
- Correlation heatmap of the columns
- Training Examples by Activity Types
- Training Examples by Subjects
- Intensive activity visualization



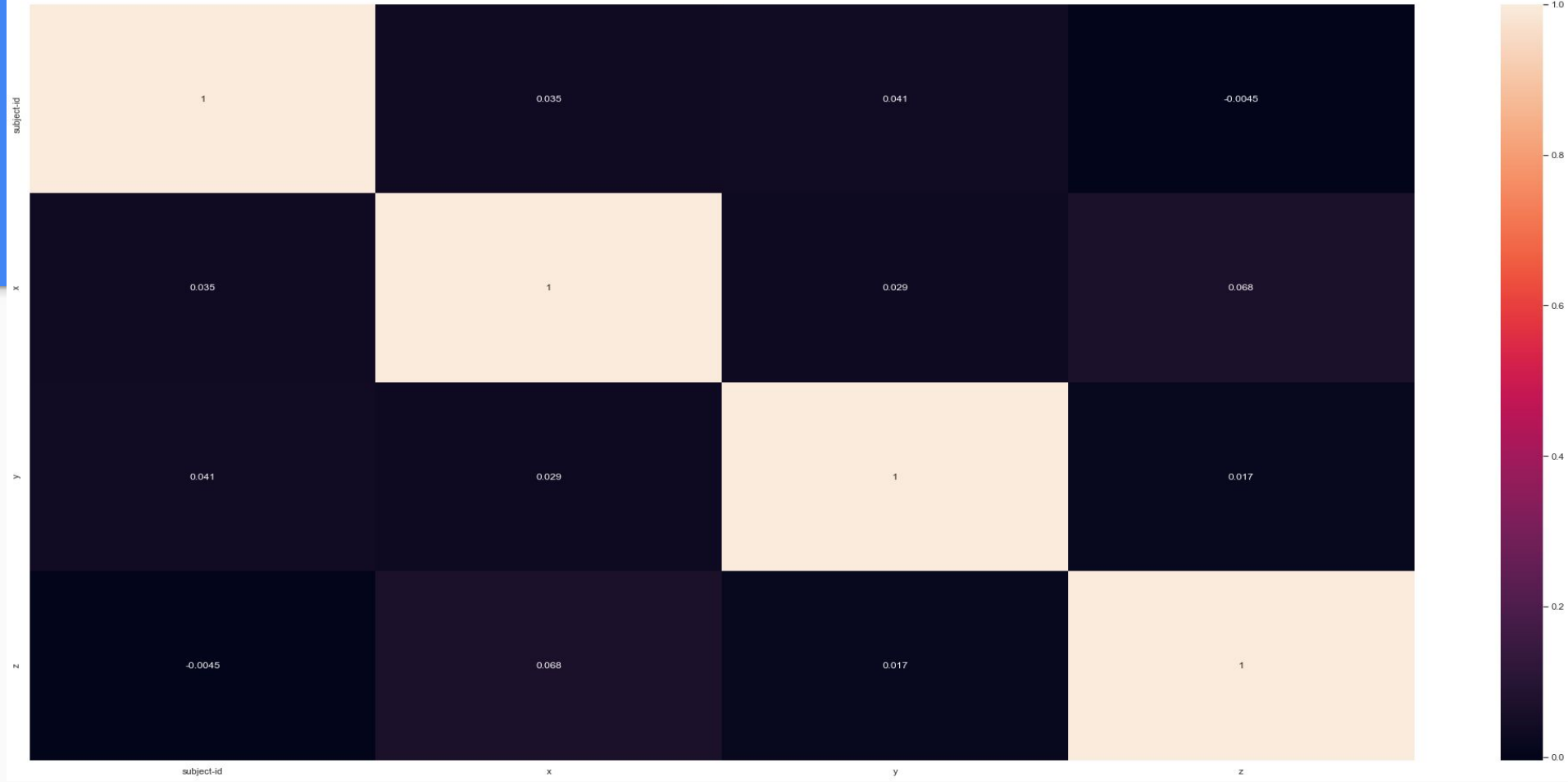
Timestamp vs Upstair



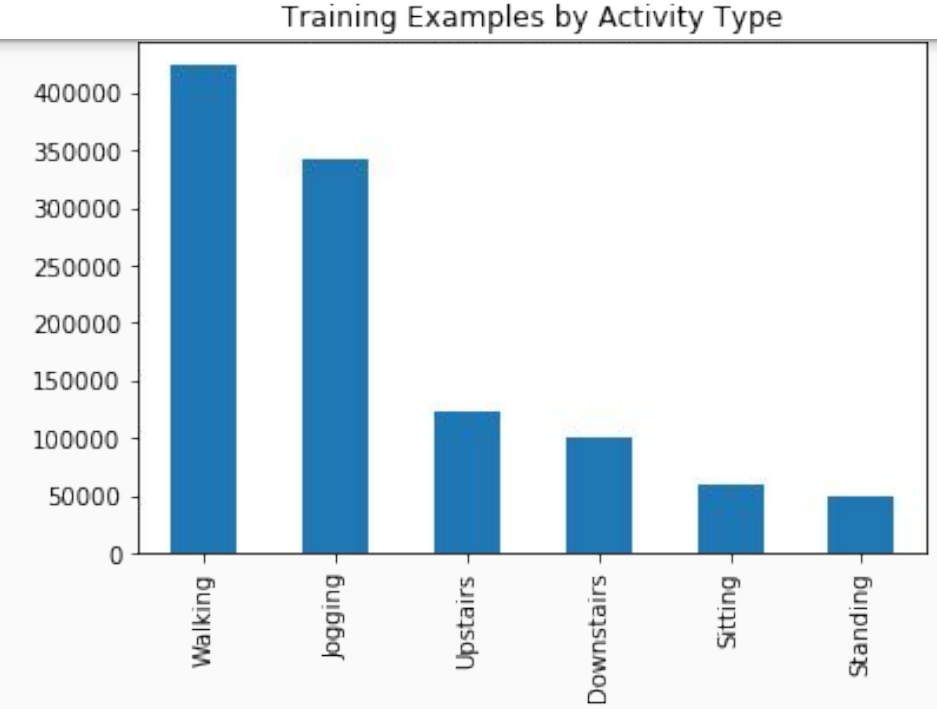
Timestamp vs Sitting

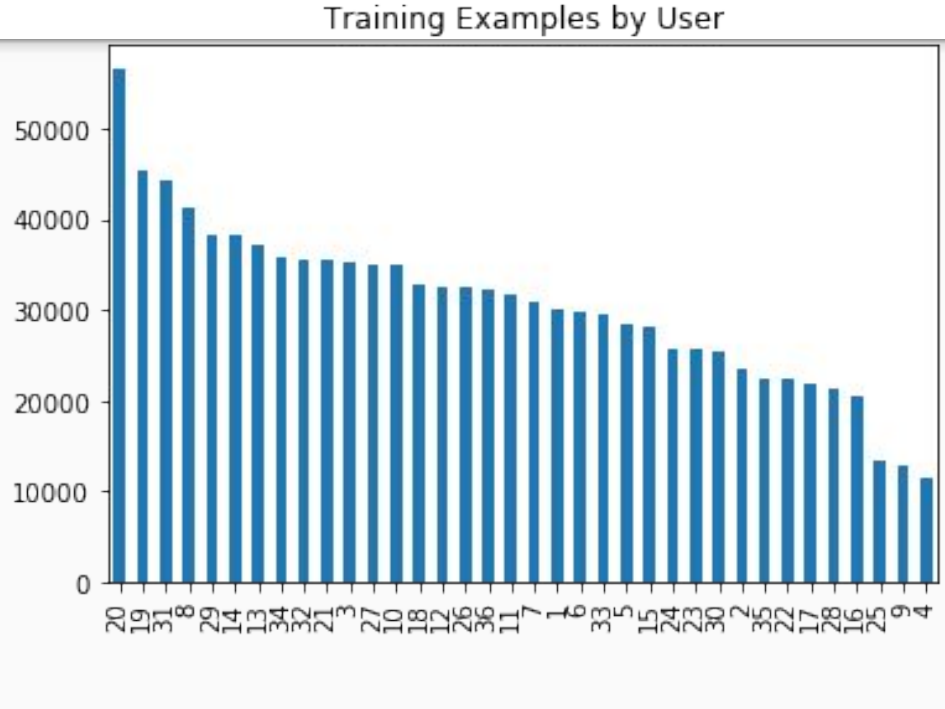


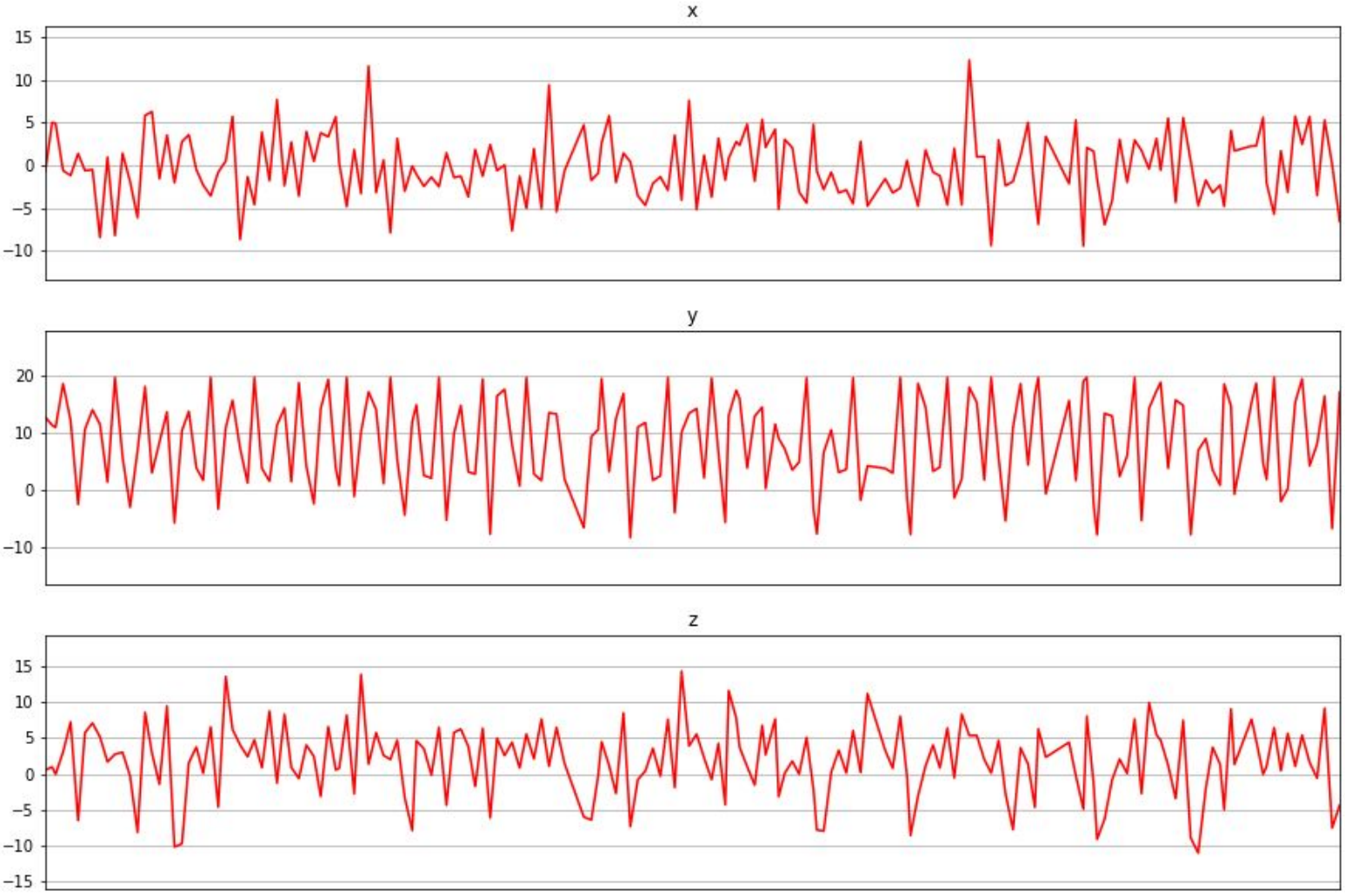
Subject-id vs Activity-Code

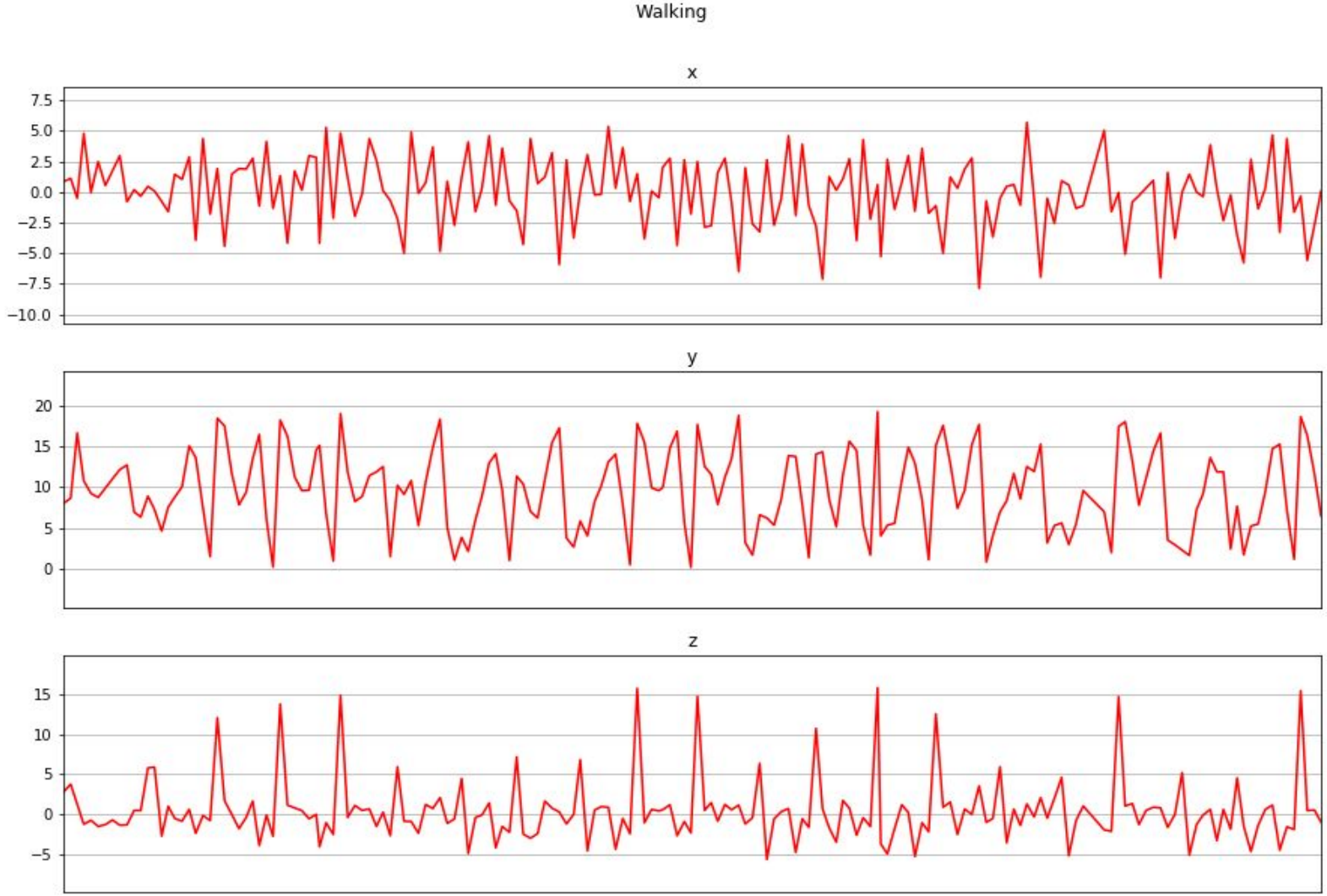


Correlation Heat Map


Training Examples by Activity Type
400000
350000
300000
250000
200000
150000
100000
50000
0
Walking
Jogging
Upstairs
Downstairs
Sitting
Standing


Training Examples by User
50000
40000
30000
20000
10000
0
20 19 31 8 29 14 13 34 32 21 3 27 10 18 12 26 36 11 7 1 6 33 5 15 24 23 30 2 35 22 17 28 16 25 9 4


x
15
10
5
0
−5
−10
y
20
10
0
−10
z
15
10
5
0
−5
−10
−15


Walking
x
7.5
5.0
2.5
0.0
−2.5
−5.0
−7.5
−10.0
y
20
15
10
5
0
z
15
10
5
0
−5

Activity prediction using Decision Tree & Random Forest

Activity Prediction - Decision Tree

	precision	recall	f1-score	support
0	0.96	0.96	0.96	29810
1	0.99	1.00	1.00	102699
2	1.00	1.00	1.00	18147
3	1.00	1.00	1.00	14478
4	0.97	0.96	0.97	36846
5	1.00	1.00	1.00	127444
accuracy			0.99	329424
macro avg	0.99	0.99	0.99	329424
weighted avg	0.99	0.99	0.99	329424

Activity Prediction - Random Forest

	precision	recall	f1-score	support
0	0.96	0.96	0.96	29810
1	0.99	1.00	1.00	102699
2	1.00	1.00	1.00	18147
3	1.00	1.00	1.00	14478
4	0.97	0.96	0.97	36846
5	1.00	1.00	1.00	127444
accuracy			0.99	329424
macro avg	0.99	0.99	0.99	329424
weighted avg	0.99	0.99	0.99	329424

Common Sequence of Activity by Time Space

hours activity-code	hours0	hours1	hours2	hours3	hours4	hours5	hours6	hours7	hours8	hours9
Downstairs	4290	4049	4056	4234	4339	4457	4234	4134	4043	4146
Jogging	25761	13689	13721	13366	13266	13281	13289	13222	13330	13258
Sitting	2446	2305	2352	2426	2406	2583	2589	2568	2520	2621
Standing	1963	1959	2138	2308	2250	2257	2263	2151	2155	2044
Upstairs	5217	5274	5434	5641	5399	5189	5427	5220	5254	5146
Walking	17491	17237	17454	17464	17347	17496	17548	17398	17505	17756

hours14	hours15	hours16	hours17	hours18	hours19	hours20	hours21	hours22	hours23
4239	4129	4245	4165	4157	4262	4295	4267	4389	4324
14103	14059	13864	13898	14129	14239	14214	14357	14179	14103
2433	2469	2370	2452	2453	2478	2527	2623	2567	2471
2087	2092	1991	1870	1698	1712	1809	1747	1805	1854
4920	5093	5160	5290	5168	4841	4905	4937	5001	4882
18163	17996	17933	17861	17916	17861	17912	17535	17449	17222

Second point

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Use this slide to show a major stat. It can help enforce the presentation’s main message or argument.

Final point

A one-line description of it

“This is a super-important quote”

- From an expert

This is the most important takeaway that everyone has to remember.

Thanks!

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