



a new wave of digital transformation

ARTIFICIAL INTELLIGENCE AND RFID

Executive summary

RFID detection is 100% but state of the art localization accuracy is poor

Use case: fashion fitting room with magic mirror:

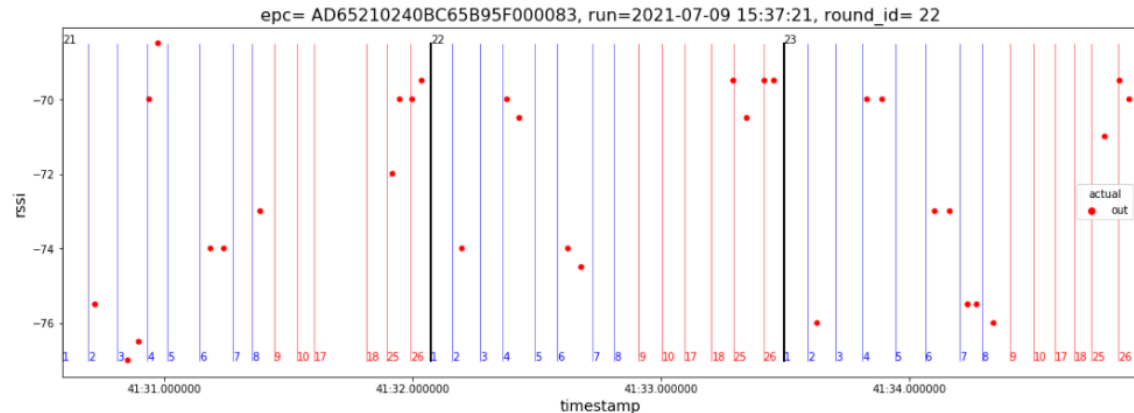
1. the fitting room RFID reader automatically detected all RFID tags
2. Based on the RFID detected tags, the large size (2mx1m) mirror switches into a display mode and triggers interaction with customer (ask for a different size, color, ... marketing push of the selected products ...)
3. Issue: RFID detected tags can be physically outside the fitting room, fooling the application

Raw RFID data:

4. timeseries with epc (tag_ID), timestamp, antenna, rssi (tag signal strength).
5. 200 detections/sec, 200Ku dataset in 15min

```
tags [['epc', 'time', 'antenna', 'rssi']].head()
```

	epc	time	antenna	rssi
0	AD65210240BAF5B65C00005E	2021-07-09 14:44:59.033603+02:00	1	-62.0
1	AD65210240BB11B761000061	2021-07-09 14:44:59.037318+02:00	1	-65.0
2	AD65210240BAFDB76200005F	2021-07-09 14:44:59.038372+02:00	1	-64.5
3	AD65210240BB91B65E00006E	2021-07-09 14:44:59.048144+02:00	1	-74.0
4	AD65210240BAEBB35D00005C	2021-07-09 14:44:59.055086+02:00	1	-71.5



Objective: tag localization classification (« in » or « out ») based on AI

Contact: christophe.loussert@mojix.com, mob: +33.6.80.11.89.90