IPIN2016_Tutorial Data Set

Abstract

The **IPIN2016_Tutorial** is an indoor localization database to test Indoor Positioning System that rely on WLAN/WiFifingerprint. It was created during the *Fingerprinting-based Indoor Positioning* tutorial of the *seventh international conference on indoor Positioning and Indoor Navigation* (IPIN2016).

Source

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Creators

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Data set information

This database can be used to test WLAN fingerprint-based indoor localization problems (also known as WiFiFingerprinting). As an alternative of the UjiIndoorLoc dataset, this dataset is focused on the study of a small scenario. In particular, it covers a corridor of the School of Engineering of the University of Alcala (Spain). It is the place where the tutorial was held.

The database consists of 927 training/reference records (Train.csv file) and 702 test ones (Test.csv). The 177 attributes contain the WiFi fingerprint, the coordinates where it was taken, and other useful information. Each WiFi fingerprint can be characterized by the detected Wireless Access Points (WAPs) and the corresponding Received Signal Strength Intensity (RSSI). The intensity values are represented as negative integer values ranging -99dBm (extremely poor signal) to 0dbM. The positive value 100 is used to denote when a WAP was not detected. During the database creation, 168 different WAPs were detected. Thus, the WiFi fingerprint is composed by 168 intensity values.

Files

Train.csv: Data used for training the model.

Test.csv: Data use to test the accuracy of the model created.

Test_labels.csv: Data use to test the accuracy of the model created.

Attribute information

Attribute 001 (WAP001): Intensity value for WAP001. Negative integer values from -99 to 0 and +100. Positive value 100 used if WAP001 was not detected.

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Attribute 168 (WAP168): Intensity value for WAP168. Negative integer values from -99 to 0 and +100. Positive value 100 used if WAP168 was not detected.

Attribute 169 (LONGITUDE): Longitude in centimetres relative to the origin of a predefined coordinate system. From -60 to 439.

Attribute 170 (LATITUDE): Latitude in centimetres relative to the origin of a predefined coordinate system. From 0 to 3042

Attribute 171 (FLOOR): All the records of this dataset have been captured in the same floor. Therefore, the floor attribute is 0 to all the records.

Attribute 172 (BUILDINGID): All the records of this dataset have been captured in the same building. Therefore, the building attribute is 0 to all the records.

Attribute 173 (SPACEID): Internal ID number to identify the Space where the capture were taken. Figure 1 shows the location (SpaceID from 1 to 40) where training records have been captured. Figure 2 shows the location (SpaceID from 1 to 65) where testing records have been captured.

Attribute 174 (RELATIVEPOSITION): All the records have 0 in this attribute. This attribute is not used in this dataset.

Attribute 175 (USERID): User identifier. Students created the train dataset (UserID from 1 to 8), and professors the test one (UserID is 0 in this case).

Attribute 176 (PHONEID): All the records have 0 in this attribute. This attribute is not used in this dataset.

Attribute 177 (TIMESTAMP): UNIX Time when the capture was taken.

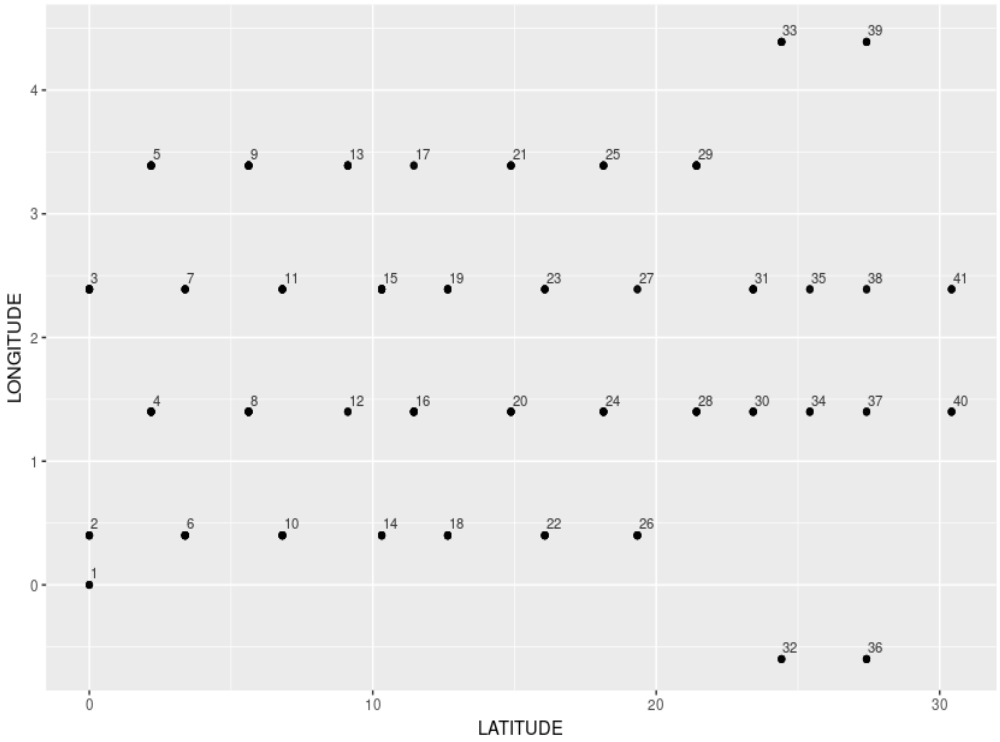
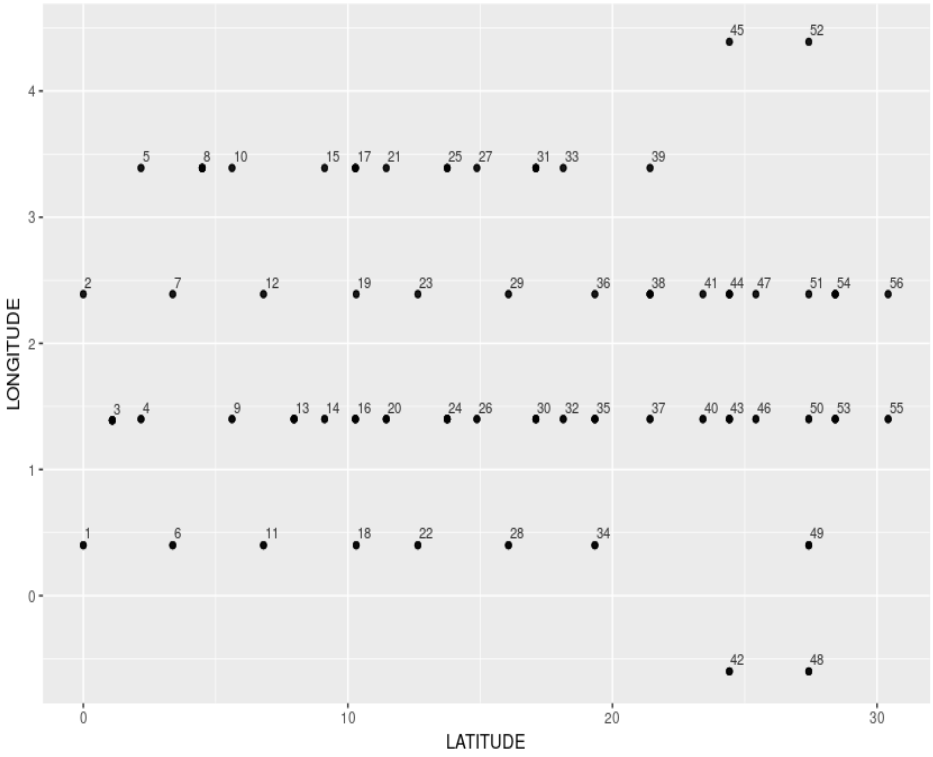


Figure 1: Training locations



1. *Figure 2: Testing locations.*

Results file

The test file provides the intensity value of the signal for 702 observations. If you want to upload a results file to the platform in order to get a score for your model accuracy, this file must follow these guidelines:

Format: csv (comma-separated values).

Columns: 2 named columns (LONGITUDE, LATITUDE) in meters.

Rows: 1st row for names and 702 rows for results.

Citation Request

http://indoorlocplatform.uji.es/info/citation/