# Comparative Sequential Pattern Mining of Human Trajectory Obtained from BLE Beacons Collected by Smartphones

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## Abstract

To collect human trajectory data and analyze them, we have developed a localization system using Bluetooth Low Energy (BLE) beacons which are collected by smartphones. The system contains 1,600 BLE beacon emitters installed on our campus. We can estimate the location of a smartphone by analyzing received BLE beacons and their RSSIs. In this work, we introduce a BLE beacon collection app and how we can detect specific human behaviors from the collected data. We apply comparative sequential pattern mining to the obtained trajectory data and extract sequential patterns that are different between male and female trajectories.

**Keywords:** Bluetooth Low Energy beacon, position estimation, PrefixSpan, S3P-classifier, trajectory mining

## References

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