

Mapping Wifi-Signal strength to increase localization accuracy

Setting:

Indoor navigation is a trending topping in application programming. Different approaches can be made to localize a handheld device – one being the mapping of the Wi-Fi Signal.

While there is a model for wave propagation, we want to further enhance the detection by mapping different rooms and offering a localization service for devices.

We already established a set of sensor nodes that will serve as sensor beacons, for measuring the distance to the device.

Your Tasks:

Your task is:

- to further enhance the sensor nodes working with embedded devices.
- Create a test set using photogrammetric methods
- Fit the test data to the existing model (via deep learning)

Languages / Platform (possibilities):

ESP32: C++

Cloud: Python, node.js

Project Characteristics

Modeling: ★☆☆☆☆

Mathematics: ★☆☆☆☆

Programming: ★★★★★

Science: ★★★★★

