



Aalto University
School of Science
and Technology

Thesis discussion: Indoor Positioning

Srikanth Gadicherla , `srikanth.gadicherla@aalto.fi`

Department of Computer Science, Aalto University

June 2, 2017

Contents

1. Advice on the experiments

Advice on the experiments

Variables here

1. Factors dependent on the environment

- ▶ Human
- ▶ Smart-phone device
 - ▶ includes orientation. (only considering the tilt 0° – 90°)
 - ▶ We select two heights. Chest and head height, later one tracking when user is on the phone.
- ▶ Bluetooth module.
 - ▶ includes orientation (facing upwards and downwards).
 - ▶ assuming the direction doesn't affect the RSSI values.
 - ▶ malfunctioning chips.

2. Factors dependent on the algorithm

- ▶ Calibration time.
- ▶ Calibration points.
- ▶ Calibration procedure.

Advice on the experiments

Variables here

We need to fix the other variables when performing experiments on one of the variables. How do we do it?

- ▶ We need to keep orientation of the Bluetooth module for 1.a, 1.b, 1.c.
- ▶ For experiments 1.a and 1.b,
 1. We need to select orientation of phone.
 2. Do we select one cardinal direction?

Advice on the experiments

- ▶ How do we select the test site? Empty, full, or normal?
- ▶ The test and train data are collected months (at least weeks) apart.
- ▶ How often do we need to fingerprint?
- ▶ Can we use Gaussian Processes to predict when to fingerprint?