

HiWi Positions (8h+ / week): Supporting a Field Test of a Smartphone-based Energy Outage Detection System

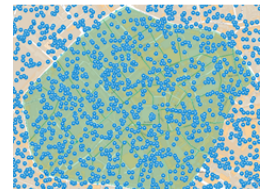
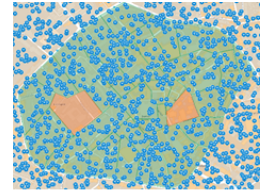
Introduction

When a smartphone detects the sudden disappearance of previously-visible WiFi networks within its vicinity, this may point to some kind failure in the energy grid in that area. Wireless networks like GSM, LTE and 5G, are usually battery-buffered and thus immune to intermittent outages.

We can hence collect information on assumed outages from smartphones and inform the grid operators automatically on possible blackouts, which drastically reduces the response times and the resulting outage lengths.

COMSYS has developed a prototype of a system implementing the aforementioned functionality. It consists of a Python-based backend server for the detection algorithms and an Android application library conducting the measurements.

This system will now undergo a **field test with 1000+ projected participants** and we are looking for students willing to **assist in the conduction of the study**.



Your Job

During the test, our library will run within a widely-distributed third-party app. Your job will be to **accompany the field tests from our side**, making sure that both the Android library and our backend server are running smoothly. Furthermore, you will **conduct parameter studies** to find out which settings enable the system to best detect blackouts in various areas.

The main functionality of the library has been completed and tested in simulations, and we expect that most major bugs have already been sorted out. Your workload will thus depend on the intensity of our field tests and the seriousness of arising issues.

Your contract will be set at **8-10h / week**, even if the system turns out to be stable and well-parameterized. More than 10h / week are negotiable. You will be given a thorough introduction by a team which has been working on the project for more than 2 years now. The field test is projected to run at least until the end of 2019, with possible follow-up tests.

Hence, if you have knowledge in either **Android / Java development** (OS versions 4.4 and up) or **Python** and want to help in bringing a large-scale field test of an IoT system to live, don't hesitate to contact us!

You can apply informally until June, 23rd. Fitting applicants may be notified before this deadline.

Contact



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