Mobile Communication Reverse Engineering File format (Internship/Bachelor Thesis)

Background

In this topic an analysis of a proprietary file format in 5G should be done. A first step would be to analyze the format structure. On a second step a decoder should be designed and implemented on how to convert this into an open source file format. This will be discussed with the supervisor in detail.

Objectives

This thesis provides an opportunity for students to gain hands-on experience with 5G technology through the following activities (varying complexity, depending on the type of thesis):

- Analysis of proprietary file format
- Implementation of a decoder to open source file format
- Practical evaluation with test data
- Documentation and Reporting: Document the research process, experimental setups, findings, and challenges encountered during the research.

Requirements

Candidates should possess basic programming skills (C/C++ and Python) and have an interest in networking and wireless communication technologies. Although prior knowledge of 4G, 5G technology is beneficial, it is not mandatory. Familiarity with wireless communication protocols, network security principles, and basic hardware interfacing is advantageous.

Application Process

All applications must be submitted through the application website INTERAMT:
https://www.interamt.de/koop/app/trefferliste?partner=339
(Abschlussarbeiten Bachelor/ Pflichtpraktika)

Carefully note the information provided on the site to avoid any issues with your application.
Your application should include

- a short CV
- a current transcript of records
- the keyword “T3-MK-Reverse” as a comment

For any questions or further details regarding this thesis and the application process, please feel free to contact ZITiS T3 (t3@zitis.bund.de) or PD Dr. Corinna Schmitt.