

Master's Thesis

5G-RAN control plane modeling and Core network evaluation

Next generation mobile networks are envisioned to cope with heterogeneous applications with diverse requirements. To this end, 5G is paving the way towards more scalable and higher performing deployments. This leads to a revised architecture, where the majority of the functionalities are implemented as network functions, which could be scaled up/down depending on the application requirements.

3GPP has already released the 5G architecture overview, however there exists no actual open source deployment of RAN functionalities. This will be crucial towards the evaluation of the Core network both in terms of scalability and performance. In this thesis, the student shall understand the 5G standardization, especially the control plane communication between the RAN and 5G Core. Further, an initial RAN function compatible with the 5G standards shall be implemented and evaluation of control plane performance will be carried out.

Prerequisites

- Strong knowledge on programming languages Python, C++ or Java.
- Knowledge about mobile networking is necessary.
- Knowledge about 4G/5G architecture is a plus.

Advisors

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