Master Thesis —
System Performance Predictions Based on Micro Benchmarks for Multi-Core Applications

**Background**
Mobile networks are used all over the world and are the cornerstone for the networked society, where everything shall be connected. To support the vast amount and diversity of data expected in future networks, Ericsson are developing products to drive and support the networked society. The subjects for Master Thesis are defined to investigate and develop algorithms, architecture, tools etc. to support huge increase of speech, data and massive IoT for Radio Access Networks.

**Thesis Description**
When Ericsson develops applications, it is important to be able to model and predict the system characteristics. The models should be able to predict characteristics before the application is ready, based on selected micro benchmarks. It should also allow for prediction based on changes in execution environment, e.g. different cloud environments.

**Task:**
- Study and evaluate approaches and tools for this modelling.
- Create a limited model of the Ericsson Packet Processing Function as an example.
- Analyze results of the tests and evaluate expected performance gain.

The thesis will be concluded with a result presentation for the Ericsson team.

**Qualifications**
This project aims at students in electrical engineering, computer science, computer engineering or similar.

**Extent**
1-2 students, 30hp each

**Location**
Ericsson AB Mjärdevi, Linköping

**Preferred Starting Date**
Spring 2019

**Contact Persons**
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