Master Thesis - Detection of Program Execution Variations in Live Networks

Background
Mobile networks are used all over the world and are the corner stone 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
Often when customers experience high CPU load it is hard to find the root cause as only high level KPI counters are available. In many cases the high CPU load comes from software fault but can also come from differences in UE populations or network configurations. By sampling the program execution these differences can be extracted including data from live networks.

The thesis work is proposed to cover:

- Establish a model, using machine learning techniques, how to compare the program execution between line nodes.
- Visualize the distribution of major differences between a large set of nodes.

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 2020

Contact Persons
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