MASTER THESIS – IDENTIFYING 5G RADIO NETWORK ISSUES USING MACHINE LEARNING

Background
Mobile networks are used all over the world and are the cornerstone in the networked society, where everything that benefits from a connection 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
In a distributed radio network environment, the network stability and reliability is essential. Such a network can have natural variations, but also faulty behavior. In 5G, the Radio Access Network (RAN) will be deployed in a more distributed deployment compared to previous systems. This will put new requirements on identifying faulty behavior and fault identification.

The task is to investigate and develop algorithms and machine learning to identify network issues from natural variations. The task also includes to identify, evaluate and propose data points for the algorithms.

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. Background in wireless communication and machine learning is a merit.

Extent
1-2 students, 30hp each

Location
Ericsson AB Mjärdevi, Linköping

Preferred Starting Date
Spring 2018

Keywords
C++, Mobile Telecommunication, Optimization, IP Networks, Machine Learning

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