Master Thesis – Autonomous Anomaly Detection and Identification in Software Production Environments

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
Many cases of software faults happen in code for error handling. It is a known fact that it is challenging to achieve sufficient test coverage on such parts of the product. When these faults happen in production environments it is challenging both to detect and identify the exact part of the code.

Task
- This thesis work shall investigate and evaluate the possibility to create methods and tools that can sample application behavior and, using machine learning, identify anomalies.
- It should also be able to assist in identifying the nature of the anomalies.

This is an active area of research with work done for instance at the University of Utah, https://www.flux.utah.edu/project/a3

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

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