MASTER THESIS – ERROR PATTERN RECOGNITION USING MACHINE LEARNING

Background
Mobile networks are used all over the world and is the corner stone in the networked society, where everything that benefits from a connection shall be connected. Ericssons use automated continous integration (CI) to secure that new technologies reach the network with high quality and backwards compatibility. In the journey towards 5G, the amount of solutions and configurations are increasing and the CI machinery needs to be constantly improved to meet the high demands that exists today and will evolve in the future.

Thesis Description
When testing new technologies in large scale in a complex environment, many parameters may be causing errors. We want the machine to help us find patterns, identify problematic areas in the test environment and suggest solutions based on history.

The following steps are envisioned as part of the thesis work:

- Investigate, evaluate and compare internal existing error finding tools and processes that can be extended with machine learning.
- Implement a generic proof of concept of error pattern finding using machine learning that can be adopted into a bigger context at the Product Integration and Release (PIR) department
- Analyze results and findings and document suggestions for further improvements.

The thesis will be concluded with a result presentation for the PIR department and other interested units at Ericsson.

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
Winter 2017/Spring 2018

Keywords
Mobile communication, Machine learning, Data mining, Scripting, Programming, Linux,

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