



ERICSSON

MASTER THESIS – EVALUATE EFFECTIVENESS OF DIFFERENT DATA VISUALISATION METHODS FOR LTE & 5G PERFORMANCE ANALYSIS

Background

Ericsson accumulates large amounts of test output data for its LTE and 5G systems. Some of this data is used for performance analysis – in order to uncover performance bottlenecks and to better understand the performance trends over time. We use exploratory data analysis to find patterns in data.

The end results are usually plotted as histograms, scatterplots and line graphs on our web-based dashboards, and in our PDF generated reports. The number of “X vs Y” relationships and the number of different visualisation methods spans in the hundreds!

Clearly it is not feasible to present and visualise data in innumerable ways, both from usability point of view, as well as from efficiency standpoint.

Thesis Description

This thesis aims at evaluating effectiveness of different data visualisation methods for the purpose of performance analysis. “Effectiveness” is here defined as the ability to discern some new information about a dataset.

The most effective methods would then be used in Ericsson to display performance data. As part of this thesis, the student shall:

- Explore and evaluate different “X vs Y” relationships in a vast set of data
- Explore and evaluate different visualisation methods
- Employ an array of latest-and-greatest software packages/libraries/modules such as D3.js, Highcharts, NumPy, and other technologies the student may see as highly relevant

The thesis will be concluded with a result presentation for the Ericsson LTE/5G Systems team.

Contact Persons

Magnus Johansson C

+46 10 7115474

magnus.c.johansson@ericsson.com

Armin Catovic

+46 10 7165738

armin.catovic@ericsson.com



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Qualifications

This project is aimed at students with solid understanding of data visualisation, and practical use of D3.js, NumPy, and other software packages/libraries. It is generally suitable for a Media Technology student.

Extent

1 student, 30hp

Location

Ericsson AB Mjärdevi, Linköping

Preferred Starting Date

January 2017

Keywords

Data Visualisation, Performance Analysis, D3.js

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Magnus Johansson C

+46 10 7115474

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