



Natural language processing (NLP) for the analysis of severity of faults (MA)

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Task Description:

The advancement of modern automated production systems comes along with large-volume, complex and growing data sets- Big Data. One example for such is data from Alarm management Systems (AMS) assuring safe operation of the production system. The data provides knowledge about frequently occurring faults or type of faults as well as their severity.



However, the manual analysis of such big data sets is beyond human capabilities. Therefore, a knowledge base of keywords and snippets shall be created using NLP-methods. To assure the applicability of the knowledge base on different data sets a general model (e.g. a semantic model like an ontology) shall be derived.

Finally, a severity analysis shall be performed on exemplary data sets from an industrial partner.

Preliminaries:

- Interest in NLP, machine learning and recent developments of automation
- Knowledge of a higher programming language (preferably Python)
- Experience with PyTorch, Tensorflow or equivalent beneficial
- Independent, motivated way of working



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