The handle http://hdl.handle.net/1887/65632 holds various files of this Leiden University dissertation.

Author: Stein, B. van
Title: Data driven modeling & optimization of industrial processes
Issue Date: 2018-09-20
PROPOSITIONS

pertaining to the thesis

Data Driven Modeling & Optimization

of Industrial Processes

by Bas van Stein

1. The most important question about missing values is not what the actual value should be, but why it is missing. [this thesis, Chapter 3]

2. Next to being a problem for most algorithms, missing values carry important information, namely their “missingness”. [this thesis, Chapter 3]

3. When looking for local outliers or anomalies, one should always keep the bigger global picture in mind. [this thesis, Chapter 4]

4. To model a large data set efficiently, sometimes it is better to model many small partitions of this data set instead. [this thesis, Chapter 5]

5. Some algorithms may become faster and more accurate, when exact calculations are replaced by approximations. [this thesis, Chapter 5]

6. The performance of model based optimization techniques is highly dependent on the surrogate model being used. Being able to use different types of surrogate models is therefore of great advantage. [this thesis, Chapter 6]

7. For most stochastic computer programs there is an equivalent deterministic computer program with one additional parameter.

8. Automated machine learning is just another, very challenging and complex optimization problem.

9. To construct well-performing artificial deep neural network structures and hyper-parameters, one can use an already trained neural network.

10. The greatest general purpose intelligent system known to date is our own brain.