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Author: Kieft, Nataša
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Propositions accompanying the thesis:

“Evaluation of Different Design Space Description Methods for Analysing Combustion Engine Operation Limits”

Nataša Kieft

1. For non-convex boundaries and an increasing number of training points the computational geometry-based convex hull approach to find the design space maximises the number of false-negative assessments. (This thesis: Chapter 4)
2. The support vector machine-based approach to describe the design space is capable of describing arbitrary boundary shapes. (This thesis: Chapter 4)
3. The influence of the number of training points on the calculation effort to solve a problem by means of a support vector machine-based algorithm is larger than the influence of the problem dimension. (This thesis: Chapter 5)
4. The leave-one-out optimisation for the support vector machine approach results in an even more precise boundary than the regular support vector machine algorithm. (This thesis: Chapter 4)
5. The convex hull approach reaches its limit of performance for the calibration problem dimensions that can be expected in the near future.
6. Within ten years 90% of the calibration work for the complete powertrain will be model-based.
7. Engine combustion applications will neither reach nor push the boundaries of the data mining application possibilities.
8. Empirical modelling will always be required for complete system simulation for engine calibration/analysis.
9. The use of empirical models will always result in the need for the knowledge of the available design space.
10. The most inspiring form of work is a discussion on a topic with people that have completely different perspectives.
11. Despite the change of development focus towards environmentally-friendly vehicles, the wealthy society will continue to have the need for high-performance cars.
12. The Dutch and the Swabian culture are very much alike, with the biggest difference that the Swabians are politer and the Dutch are more direct.