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Data Science and Statistical Machine Learning in Industry 4.0: Personal Reflections

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Data Science has emerged to deal with the so-called (big) data tsunami. This has led to the Big Data environment, characterized by the four Vs: volume, variety, velocity, and veracity. We live in a new era of digitalization where there is a belief that due to the amount and speed of data production, new technologies coming from artificial intelligence could now solve important scientific and industrial problems solely through the analysis of empirical data, without the use of scientific models, theory, experience, or domain knowledge. In this talk I will discuss on the risk of this belief and on some insights about statistical machine learning, that is, the integration of machine learning with statistical thinking and methods (mainly latent variables-based) to succeed in problem solving, and process improvement and optimization in Industry 4.0.

Keywords

Data Science, Statistical thinking, Statistical Machine Learning

Classification

Mainly application

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