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Dealing with High Dimensional Sequence Data in Manufacturing

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Abstract

Advanced manufacturing processes generate large number of parameters and sequences collected from multiple stages of the production pipeline. Consequently, the data dimension explodes due to the high number of features and sequence length. In such a configuration, it is extremely challenging for machine learning algorithms to perform well in limited datasets of few thousand data points. In this paper, we discuss suitable state-of-the-art techniques and propose the application and comparison of few most promising methodologies for effective feature transformation to address this challenge. The results are presented on real-world use cases from the manufacturing sector in Luxembourg.

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