

Title (en)

MODEL-BASED DETERMINATION OF A SYSTEM STATUS BY MEANS OF A DYNAMIC SYSTEM

Title (de)

MODELLBASIERTE ERMITTLUNG EINES SYSTEMZUSTANDES MITTELS EINES DYNAMISCHEN SYSTEMS

Title (fr)

DÉTERMINATION BASÉE SUR UN MODÈLE D'UN ÉTAT DE SYSTÈME AU MOYEN D'UN SYSTÈME DYNAMIQUE

Publication

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Application

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Priority

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Abstract (en)

[origin: WO2017207317A1] The invention relates to a method for the model-based determination of a system status of a dynamic system by means of a model, wherein: - a recurrent neural network is provided as the model of the dynamic system; - the model is supplied with a time series of potentially recordable measurement values as an input variable, the values comprising recorded and missing measurement values; - at least one system status associated with a time point is generated from the model, from which status at least one target value belonging to the respective time point can be determined; - sequential system statuses transition into one other by means of a respective status transition; - and a correction of at least one system status is carried out on the basis of the time series with the aid of the status transition; characterized in that the correction is carried out without being influenced by the missing measurement values of the time series. The correction is carried out if a value within the observable vector was also actually measured or is present. If, on the other hand, there is a gap in the time series, for example for some or multiple entries of one or more observable vectors at different time points, then they are not taken into account in the correction. Sparsely occupied time series or those with gaps can thus be used advantageously for improved modelling in recurrent neural networks.

IPC 8 full level

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