Data-Driven Approach for Labelling Process Plant Event Data

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An essential requirement in any data analysis is to have a response variable representing the aim of the analysis. Much academic work is based on laboratory or simulated data, where the experiment is controlled, and the ground truth clearly defined. This is seldom the reality for equipment performance in an industrial environment and it is common to find issues with the response variable in industry situations. We discuss this matter using a case study where the problem is to detect an asset event (failure) using data available but for which no ground truth is available from historical records. This work raises questions such as ``what are we detecting?'' and ``is there a right way to label?'' and presents a data driven approach to support labelling of historical events in process plant data for event detection in the absence of ground truth data.

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