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The Data Quality Monitoring (DQM) of CMS is a key asset to deliver high-quality data for physics analysis and it is used both in the online and offline environment. The current paradigm of the quality assessment is based on the scrutiny of a large number of histograms by detector experts comparing them with a reference. The project aims at applying recent progress in Machine Learning techniques to the automation of the DQM scrutiny. We explored the landscape of existing ML algorithms with particular attention to supervised problems (for offline DQM) to demonstrate their validity and usefulness on real test cases using CMS data.

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