Train Delay Prediction in the Netherlands through Neural Networks

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Accurate predictions of future train event times are of great value to passenger service information systems, to dispatchers who may be able to use it to anticipate conflicts, and to many types of real-time capacity rescheduling models such as crew and rolling stock rescheduling. This work investigates to what extend low-maintenance out-of-the-box machine learning models can provide accurate predictions of future delay and delay development for trains in dense-traffic networks with heterogeneous train demand based on historical data for the ultra-short period of 20 minutes ahead. Results indicate that indeed such models can outperform a constant prediction model, especially when one values the forecast of large delay changes.

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