Real-Time Condition Monitoring and Data Analytics in Tank Filling Systems

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Abstract:

This graduation project focuses on using cloud-based platforms for data storage and analysis to enable predictive maintenance and condition monitoring of tank filling systems. By leveraging real-time data analytics, the system aims to enhance operational efficiency through the integration of various platforms utilizing the Industrial Internet of Things (IIoT). The system will continuously monitor critical system variables such as flow rates, pressure, temperature, and fill levels, and plot trends to identify deviations from normal operating conditions. These trend analyses will be used for fault-finding, allowing the system to automatically generate alerts when abnormalities or irregularities are detected. An experimental prototype will be carried out to test the system's capabilities in real-world scenarios.