Name of student: Selvina GOVINDEN
Name of your Level 0: Pauline LECOMTE
Name of your Level 2: Gabin OBRECHT

Keywords specific to the paper:

Business processes, Predictive monitoring, Data quality, Structural health monitoring

Summary of the main contribution:

The articles explore how Artificial Intelligence (AI) is changing various fields such as business processes, predictive monitoring, data quality, and structural health monitoring.

In business process reengineering, AI assists companies in redesigning processes for better efficiency and innovation. It enables quicker and smarter decision-making, benefiting industries like banking, healthcare, manufacturing, and insurance. Examples from companies like DBS Bank and Shell demonstrate how AI enhances efficiency and introduces new ways of operating.

In predictive monitoring, Deep Learning (DL) outperforms traditional machine learning (ML) in complex processes with high instance-to-variant ratios. Techniques like Long Short-Term Memory (LSTM) networks excel in forecasting future events based on historical data, aiding process optimization.

AI-based systems like "Hydra" address challenges in data quality monitoring, providing real-time status views and retrospective issue detection, replacing manual monitoring and enhancing efficiency.

In structural health monitoring, AI integrated with fiber optic sensors, such as the Brillouin Optical Time Domain Analysis (BOTDA) system, improves infrastructure monitoring by measuring temperature and strain variations along optical fibers. AI assists in analyzing data for anomaly detection and timely maintenance to ensure structural integrity.

Conclusion:
In conclusion, these articles highlight AI's significant impact on process optimization, predictive analysis, data quality management, and structural health monitoring, promoting efficiency, innovation, and safety across sectors.