Investigation of a Common Framework for Models Interoperability in the Digital Twin(s) of Flexible Production Line

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Résumé

As digital twins increasingly influence manufacturing, interoperability among diverse models remains a challenge, limiting their full potential and hindering further integration. This thesis introduces a framework aimed at bridging this gap within digital twins for flexible production lines. By employing semantic-driven methodologies and ontology-based integration, it facilitates effective data and model exchange across prominent simulation platforms. This research represents a crucial step towards optimizing the utility of digital twins across the system lifecycle with a domain-neutral methodology, ensuring dynamic optimization and enhanced decision-making in Industry 4.0 applications.

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