Заключение

Таким образом, применение методов машинного обучения в производстве открывает новые возможности для повышения качества продукции, снижения затрат и оптимизации процессов и уже сегодня такие системы демонстрируют высокую эффективность в реальных условиях. Ключевыми факторами успеха являются качество данных, выбор правильной модели, ее интерпретируемость и эффективная интеграция в бизнес-процессы.

Продолжение исследований в данной области будет способствовать созданию интеллектуальных производственных систем, соответствующих требованиям Индустрии 4.0. ■

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Machine Learning Methods for Predicting Defects in Production Processes

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key words

industry, defects, data mining, quality control

Traditional quality control methods based on random testing are often insufficient to detect defects in a timely manner. As a result, there has been an increased interest in using machine learning techniques that can analyze large amounts of production data in real-time and predict the likelihood of defects.

The paper provides an overview of existing machine learning approaches and algorithms used in industrial analytics, including both classical methods and modern deep learning models. In addition, the article addresses key issues related to the insufficient quality of source data, limited interpretability of complex models, and difficulties that arise when integrating AI solutions into existing production chains. It is concluded that further research in this area is highly promising and relevant.