عنوان مقاله:

Artificial Intelligence for Predictive Analytics in the Petrochemical Industry : A Scoping Review

محل انتشار:

تعداد صفحات اصل مقاله: 7

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خلاصه مقاله:

The petrochemical industry, particularly in countries like China, the United States, Saudi Arabia, Russia, Germany, and Iran, plays a significant role in generating value in the petroleum and gas sector. This paper aims to systematically explore the literature to identify key concepts, theories, evidence, and research gaps on the use of artificial intelligence in the petrochemical industry. To achieve this, we conducted a scoping review of eligible English journals and conferences that focus on the computational approach to prediction in petrochemical issues. Our search and investigation, carried out on Google Scholar and Scopus, led to the identification of ۳۴ relevant papers. Our findings, from an application perspective, span categories such as energy saving, leakage, failure and error, chemical and molecular, danger and fire, production processes, price and trade, maintenance, noise, and safety and health. In terms of the computational methods utilized, we identified different versions of neural networks, optimization algorithms, and traditional machine learning algorithms, Markov processes, dimension reduction, network analysis, randomized algorithms, and mathematical modeling. For future work, this paper suggests the exploration of underutilized but promising computational techniques for research problems in the petrochemical industry.

کلمات کلیدی:

Prediction, Petrochemical, Artificial intelligence

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