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A STUDY OF MACHINE LEARNING FORECASTING FOR BUSINESS

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ABSTRACT

Businesses may better meet the needs of their customers and avoid disappointing them by not fulfilling orders due to a lack of stock thanks to accurate forecasting. This has a dramatic effect on business and consumer happiness. Having an idea of demand helps with things like logistics planning, keeping tabs on inventory costs, and estimating a product's return on investment. That's why businesses may improve their AI maturity using ML forecasting models and, more significantly, use such models to solve business challenges by analyzing historical data. In today's world, there is an unprecedented increase in the quantity of data being generated by markets, companies, and people. According to Finances Online, in 2022 the global production and consumption of data would total 94 zettabytes. In turn, this expansion provides the fuel for the training of ML models, strengthening them and improving their precision. Market Research Future predicts that by 2030, the market for machine learning will be worth $106.52 billion, with a compound annual growth rate (CAGR) of 38.76 percent from 2020 to 2030. Opportunities for developing forecasting models increase when market share grows (a result of developments in cloud services and an increase in unstructured data). Hence, let's examine how and why these models are more effective than more conventional methods for boosting the precision of business forecasts. The success of ML forecasting relies on analyzing vast amounts of data in order to make reliable prognoses and reach high efficiency levels. Rather than relying on a small number of variables, as is the case with conventional forecasting methods, machine learning allows businesses to take into account a wide variety of business drivers and factors by way of the construction of nonlinear algorithms that minimize loss functions (a crucial ingredient in all optimization problems).