

# **THE APPLICATION OF MACHINE LEARNING IN SOLVING INVENTORY MANAGEMENT PROBLEM**



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# THE APPLICATION OF MACHINE LEARNING IN SOLVING INVENTORY MANAGEMENT PROBLEM

UNDERGRADUATE THESIS

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FACULTY OF BUSINESS  
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**APPROVAL PAGE**

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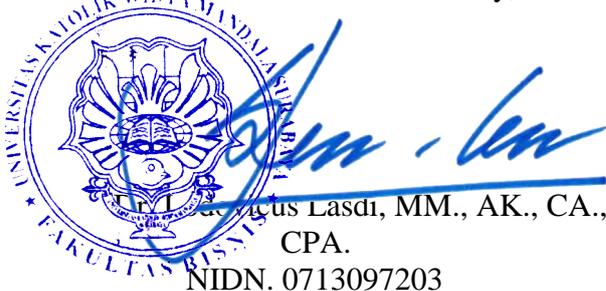
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## **AUTHENTICITY STATEMENT OF SCIENTIFIC PAPER AND PUBLICATION APPROVAL OF SCIENTIFIC PAPER**

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## FOREWORDS

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The author realizes that this thesis still has a lot of room for improvement and far from perfect. Therefore, the authors welcome all constructive criticism and suggestions from all parties so that the thesis will become better work in the future. In the end, the author hopes this thesis can be useful for anyone who needs it, for both academic and practical use.

Surabaya, 23 June 2021



Emmanuela Maria Jessica S.

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## ABSTRACT

Inventory is an investment and a potential source of waste that needs to be carefully controlled. Frequent changes and new events which occur in the market create another challenge for forecasting. This makes the Small and Medium Industry (SMI) who plan production not totally sure that the prepared prognoses will come true 100%. This is where machine learning comes into play. Artificial intelligence needs to be teamed with human oversight and should be treated as part of the system but not as a replacement for the system or the system itself. This research aims to develop a machine learning model for inventory management of Small and Medium Industry (IKM) based on demand prediction. To achieve the purpose of the study, the study uses descriptive methods. The result is an application called Managerku. The demand prediction shows that it captures the seasonality of the data. In this research, we will discuss the challenges of building an application using machine learning for inventory management problems.

**Keyword:** *Machine learning, Inventory management, LSTM, Demand forecasting.*