CERTIFICATE

Certified that Harsh Kumar Singh (2200290140066), Harshit Singhal (2200290140067),

Ankur Sharma (2200290140031) have carried out the project work having "STOCK

WALLET" (Project-KCA451) for Master of Computer Application from Dr. A.P.J.

Abdul Kalam Technical University (AKTU) (formerly UPTU), Lucknow under my

supervision. The project report embodies original work, and studies are carried out by the

student himself/herself and the contents of the project report do not form the basis for the

award of any other degree to the candidate or to anybody else from this or any other

University/Institution.

Date: 25/05/2024

HARSH KUMAR SINGH (2200290140066)

HARSHIT SINGHAL (2200290140067)

ANKUR SHARMA (2200290140031)

This is to certify that the above statement made by the candidate is correct to the best

of my knowledge.

Date: 25/05/2024

Mr. Rabi Narayan Panda **Associate Professor**

Department of Computer Applications

KIET Group of Institutions, Ghaziabad

Dr. Arun Kumar Tripathi **Head of Department**

Department of Computer Applications KIET Group of Institutions, Ghaziabad

ii

"STOCK WALLET" Harsh Kumar Singh (2200290140066) Harshit Singhal (2200290140067) Ankur Sharma (2200290140031)

ABSTRACT

This project presents a stock market prediction system developed using the Django framework in Python, integrating powerful data analysis libraries such as NumPy, Pandas, and Matplotlib. The system utilizes machine learning regression models to forecast stock prices, leveraging data sourced from Yahoo Finance via its API.

Unlike traditional database-driven approaches, this project eliminates the need for a database by fetching real-time stock data directly from the Yahoo Finance website through its API. Each stock is represented by a ticker symbol, allowing users to easily search for and access the desired company's stock data.

The core of the system lies in its utilization of machine learning techniques, particularly regression models, to analyse historical stock price data and predict future price movements. By harnessing the capabilities of libraries like scikit-learn, the project employs regression algorithms to train predictive models tailored to specific stock requirements.

Furthermore, the Django framework provides a robust backend infrastructure, facilitating seamless integration of the machine learning components with the user interface. Users can interact with the system through a user-friendly interface, inputting stock ticker symbols and receiving accurate predictions of future stock prices.

This project offers a practical and efficient solution for stock market prediction, catering to the needs of investors and traders seeking insights into potential market trends. By combining the power of Django, machine learning, and real-time data access through Yahoo Finance API, the system empowers users with valuable tools for informed decision-making in the dynamic world of financial markets.

ACKNOWLEDGEMENTS

Success in life is never attained single-handedly. My deepest gratitude goes to my

project supervisor, Mr. Rabi Narayan Panda for her guidance, help, and encouragement

throughout my project work. Their enlightening ideas, comments, and suggestions.

Words are not enough to express my gratitude to **Dr. Arun Kumar Tripathi**, Professor

and Head, Department of Computer Applications, for his insightful comments and

administrative help on various occasions.

Fortunately, I have many understanding friends, who have helped me a lot on many

critical conditions.

Finally, my sincere thanks go to my family members and all those who have directly

and indirectly provided me with moral support and other kind of help. Without their

support, completion of this work would not have been possible in time. They keep my life

filled with enjoyment and happiness.

Harsh Kumar Singh

Harshit Singhal

Ankur Sharma

iν

TABLE OF CONTENTS

6	Test	ing	58-62
	5.4	Conclusion	
	5.3	Future Work	
	5.2	Discussion of Potential Improvements	
_	5.1	Current State Analysis	52 57
5		ussion and Future Work	52-57
•	4.1	Introduction	72 -31
4		n Design/Screenshots	42-51
	3.9	Feature Engineering Techniques	
	3.8	Correlation Matrix Exploration	
	3.6	Data Cleaning Data Analysis	
	3.6	Exploratory Data Analysis (EDA) Data Cleaning	
	3.4 3.5	Module Description Exploratory Data Analysis (EDA)	
	3.3	Architecture Modula Description	
	3.2	System Requirements	
	3.1	Introduction	
3	System Implementation		25-41
	2.6	Schedule Feasibility	
	2.5	Behavioral Feasibility	
	2.4	Operational Feasibility	
	2.3	Technical Feasibility	
	2.2	Key Objectives	
	2.1	Introduction	
2	Feasibility Study		11-24
	1.4	Challenges	
	1.3	Application	
	1.2	The Dynamic Landscape of Prediction Systems	
	1.1	Overview	
1	Introduction		1-10
	List	of Figures	vii
		e of Contents	v-vi
		nowledgements	iv
	Abstract		iii
	Cert	ificate	11

6.1	Introduction	
6.2	Input Validation	
6.3	Functionality Testing	
6.4	User Interface Testing	
6.5	Performance Testing	
6.6	Security Testing	
6.7	Regression Testing	
Bibliography		
Refe	64	

LIST OF FIGURES

Figure No.	Name of Figure	Page
rigure No.		No.
1.4.1	Taxonomy of Stock Prediction System	10
3.3.1	Architecture of Stock Prediction System	27
3.3.2	Design of Stock Prediction System	28
3.5.1	Yahoo Finance Stocks Rates	33
3.5.2	Visualization of different company stocks	34
3.6.1	Rates of a company stock before cleaning	35
3.6.2	Rates of company stocks after cleaning	36
3.7.1	Volume of Stock traded	37
3.7.2	Highest price reached for each stock traded	38
3.9.1	Feature Engineering techniques	40
3.9.2	Data obtained after Feature Engineering	41
4.1.1	Predict Page	44
4.1.2	Home Page	44
4.1.3	Active Stocks	45
4.1.4	Recent Prices	45
4.1.5	Predicted Prices	46
4.1.6	Prices of Different Tickets	46
4.1.7	Information of Entered Ticket	47