MY FINANCE: WEB APPLICATION WITH STOCK PRICE PREDICTION USING REGRESSION LEAST SQUARES ALGORITHM

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My Finance: Web Application with Stock Price Prediction using Regression Least Squares Algorithm

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ABSTRACT

This final project focuses on the development of a web application called My Finance, designed for managing personal finances. The application allows users to register and log in using email and password authentication. Once logged in, users have a dashboard displaying essential financial information such as monthly income, spending, balance, and net worth. The application's main feature is the "Pocket" page, where users can create different pockets, including options like Cash, Bank account, and e-wallet. Users can specify the pocket type, name, current balance, and description. Actions such as transferring funds between pockets, editing details, deleting pockets, and reviewing pocket transactions are available. The "Transaction" page enables users to add three types of transactions: income, spending, and transfers. Within the stocks section, a machine learning algorithm is incorporated to predict future stock prices.

To predict stock prices, the algorithm collects historical data from the Yahoo Finance API, converts it to a structured panda's data frame-like format, and extracts the necessary features and target variables. By making predictions on new data, the algorithm provides users with insights into potential stock price fluctuations, indicating potential upsides or downsides. Least Squares Regression is a popular algorithm used for predicting numerical values based on input features. It aims to find the best-fitting line that minimizes the sum

of the squared differences between the predicted values and the actual values in a given dataset.

The web application is developed using the Laravel PHP framework, with a MySQL database and Apache server utilized for storage and hosting purposes. By combining personal finance management features with stock price prediction, the application offers users a powerful tool for making informed financial decisions

Keywords: FinPro, Finance, Machine Learning

DEDICATION

I dedicate this final project to my loving family, whose unwavering support and encouragement have been instrumental in my academic journey. Your belief in my abilities and constant motivation has pushed me to overcome challenges and reach new heights. This achievement is as much yours as it is mine, and I am forever grateful for your love and sacrifices.

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TABLE OF CONTENTS

ABSTRACT i

DEDICATION iii

ACKNOWLEDGMENTS iv

TABLE OF CONTENTS v

LIST OF TABLES vii

LIST OF FIGURES viii

CHAPTER

I. INTRODUCTION 1

1. 1 Background 1
1. 2 Goal 2

II. LITERATURE STUDY 4

2. 1 Machine Learning Techniques for Stock Price Prediction 4
2. 2 Data Collection and Preprocessing for Stock Price Prediction 5
2. 3 Web Application Technologies 6
2. 4 Least Squares Regression Algorithm 7

III. SYSTEM ANALYSIS 12

3. 1 System Overview 12
3. 2 Hardware and Software Requirements 13
3. 3 Functional Analysis 15
3. 4 Use Case Diagram 16
3. 5 Use Case Narrative 18
3. 6 Activity Diagram 20

IV. SYSTEM DESIGN 23

4. 1 User Interface Design 23
4. 2 Data Design.....36
4. 3 Class Diagram 39

V. SYSTEM IMPLEMENTATION 41

5. 1 Technology Stack.....41
5. 2 Architecture Implementation 42
5. 3 Deployment 43
5. 4 Training and Evaluation of the Model 44
5. 5 Integration of the Model into the Web Application 45

VI. SYSTEM TESTING AND EVALUATION 48

6. 1 Testing Strategies and Approaches 48
6. 2 Unit Testing 49
6. 3 Integration Testing 49
6. 4 Performance Testing 50
6. 5 User Acceptance Testing 50
6. 6 Stock Price Prediction Accuracy 51
6. 7 Evaluation of Results 59

VII. CONCLUSIONS AND FUTURE WORK.....61

7. 1 Summary of Achievements.....61
7. 2 Key Findings and Insights 63
7. 3 Future Enhancements and Recommendations 65

REFERENCES 68

LIST OF TABLES

2.1 Example of Open and Close Stock Price 9

3.1 Use Case Narrative of Predict The Stock Price 18

4.1 Data Design.....36

5.1 Accuracy Testing on Stock Data.....57

LIST OF FIGURES

3.1 Functional Analysis Diagram .....**Error! Bookmark not defined.**5

3.2 Use Case Diagram.....16

3.3 Activity Diagram 20

4.1 My Finance Login Page.....29

4.2 My Finance Register Page 29

4.3 My Finance Home Page.....30

4.4 My Finance Pocket Page.....30

4.5 My Finance Transaction Page.....31

4.6 My Finance Stock Page 31

4.7 My Finance Predict Stock Price.....32

4.8 My Finance Financial Plan 32

4.9 My Finance Your Debt Page.....33

4.10 My Finance Your Friends Debt Page.....33

4.11 My Finance Investment Page.....34

4.12 My Finance Deposito Page 34

4.13 My Finance Mutual Fund.....35

4.14 My Finance P2P Lending Page.....35

4.15 My Finance Predict Stock Pocket Condition Fail.....36

4.16 Class Diagram.....39