DrillBit

The Report is Generated by DrillBit Plagiarism Detection Software

Submission Information

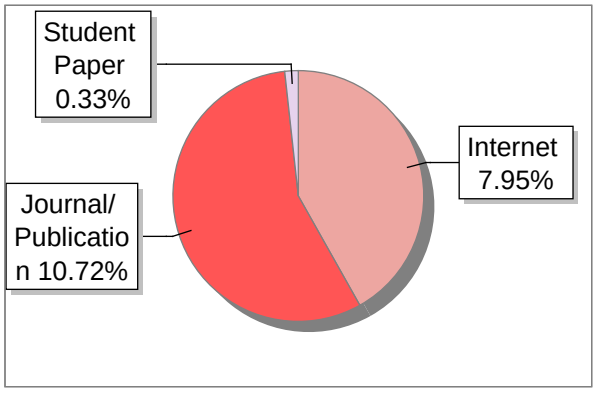
Author Name	Soumya Kumari
Title	Quantitative Finance Model Visualizer Using Hig..
Paper/Submission ID	768530
Submission Date	2023-06-09 20:00:19
Total Pages	65
Document type	Project Work

Result Information

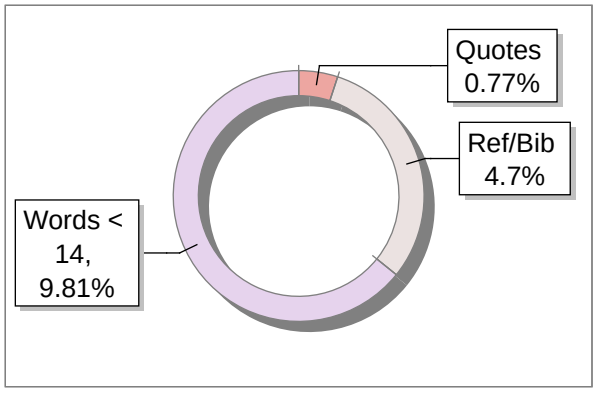
Similarity **19 %**

1 10 20 30 40 50 60 70 80 90

Sources Type



Report Content



Exclude Information

Quotes	Not Excluded
References/Bibliography	Not Excluded
Sources: Less than 14 Words Similarity	Not Excluded
Excluded Source	**0 %**
Excluded Phrases	Not Excluded

A Unique QR Code use to View/Download/Share Pdf File

DrillBit

DrillBit Similarity Report

19	183	B
SIMILARITY %	MATCHED SOURCES	GRADE

A-Satisfactory (0-10%)
B-Upgrade (11-40%)
C-Poor (41-60%)
D-Unacceptable (61-100%)

LOCATION	MATCHED DOMAIN	%	SOURCE TYPE
1	repositorio.uam.es	1	Publication
2	acadpubl.eu	1	Publication
3	Bayesian Neuro-Fuzzy Inference System (BaNFIS) for Temporal Dependency Estimatio by Subhrajit-2020	<1	Publication
4	www.researchgate.net	<1	Internet Data
5	www.ijcttjournal.org	<1	Publication
6	Agricultural Fruit Prediction Using Deep Neural Networks by Khan-2020	<1	Publication
7	Thesis Submitted to Shodhganga Repository	<1	Publication
8	coek.info	<1	Internet Data
9	moam.info	<1	Internet Data
10	mdpi.com	<1	Internet Data
11	dokumen.pub	<1	Internet Data
12	mdpi.com	<1	Internet Data
13	www.scribd.com	<1	Internet Data
14	www.epsa-online.org	<1	Internet Data

Chapter 1

Introduction

Shares of businesses are traded on the stock market for stockbrokers. One of the most difficult tasks is projecting stock prices since accurate forecasting is essential to success in the stock market. Due to the stock market's volatility, a number of strategies are employed to predict price, but none of them has been demonstrated to be a reliable tool for consistent prediction. As a result, we suggested the Artificial Neural Network (ANN) technique since, after learning from and analyzing the initial inputs and their relationships, ANN can generalize and forecast data. In our Quant Major Project, we set out to develop models on basis of technical indicators and Long Short Term Memory to forecast the price of a stock that varies daily as well as financial statistics that can be seen visually, like Skewness, Kurtosis, Holistic Volatility, etc., that are all compiled from day-end data for any publicly traded stock. The regression Long-Short Term Memory ANN model is trained after we first obtain a dataset of intraday trading of any publicly traded stock of the Indian Stock Exchange Market from Kaggle. A special type of artificial neural network called Long Short-Term Memory (LSTM) is employed in deep learning and artificial intelligence. One of the largest innovations to occur in the last 15 years is Algorithmic trading's High-Frequency Trading (HFT) division. The ability of a trader to take orders with extremely little lead time is referred to as HFT or nano trading. This model is run using price history together with technical analysis signals and strategies, and the results are assessed using profitability and performance measures. Based on historical stock data, the neural network model is successfully used to predict the daily highest, lowest, and closing values of business stocks in a short amount of time, however, it is ineffective in predicting the return rate of the stocks.

Various features such as stochastic indicators, moving averages, and RSI is extracted from the historical stock data to train the ANN model. The dataset is then divided into training and testing sets which are used for the accuracy of the ANN model.

1.1 Real World Application

Thus we are combining both Data mining and neural networks in our proposed system to first collect and refine stock data then analyze these data with the ANN method and provide the result of the input data in prediction using data mining and LSTM algorithm to predict the stock value more accurately.

1.2 Organisation of Project Report

The project report is organized as follows: In Chapter (2) we discuss the problem statement and the proposed solution. We also take a look at the systems that exist today and the drawbacks they face. Chapter (3) takes a more in-depth look at various hardware and software based solutions that exist, with a survey on existing literature available. Chapter (4) looks at the architecture of the proposed solution with an overview of the system design, utilizing system block diagrams and data flow diagrams. Chapter (5) dives into the Implementation of the solution, by describing the hardware and software requirements, along with dataset descriptions and implementation details. Chapter (6) describes our testing process, while Chapter (7) looks at our experimentation process and the obtained results. Chapter (8) summarizes our findings and concludes the paper.

Chapter 2

Problem Statement and Proposed Solution

2.1 Problem Statement

To develop a quantative tool for stock market prediction using deep learning algorithms and statistical parameters.

2.2 Existing Systems

There are several existing methods used for stock market prediction. Here are some commonly used approaches:

1. Fundamental Analysis: This method involves analyzing the financial health, performance, and prospects of a company to determine its intrinsic value. Factors such as revenue, earnings, industry trends, and management quality are considered to predict the future stock price.

2. Technical Analysis: Technical analysts study historical price and volume data to identify patterns, trends, and signals that can indicate future price movements. They use various tools and techniques, such as moving averages, chart patterns, and oscillators, to make predictions based on past market behavior.

3. Machine Learning and Artificial Intelligence: With the availability of vast amounts of data and computing power, machine learning and artificial intelligence algorithms are being increasingly used for stock market prediction. These models analyze historical data, market trends, news sentiment, and other relevant factors to make predictions. Common machine

learning algorithms used include regression models, decision trees, random forests, and neural networks.

4. Sentiment Analysis: Sentiment analysis involves analyzing news articles, social media feeds, and other textual data to gauge market sentiment and investor emotions. By monitoring positive or negative sentiment towards a particular stock or the overall market, predictions can be made about future price movements.

5. Expert Opinions: Financial analysts and experts provide their opinions and predictions based on their knowledge, experience, and research. These opinions can be valuable inputs for investors but should be considered alongside other methods for a comprehensive analysis.

2.3 Proposed Solution

The main objectives are:

- To Predict Result with more accuracy
- Solves the vanishing gradient issues in other RNN models
- To make model more efficient
- Consider other parameters too while making predictions like statistical indicators.

2.3.1 KNN

K-Nearest Neighbors (KNN) is a simple and popular supervised machine learning algorithm used for both classification and regression tasks. It is a non-parametric algorithm, meaning it doesn't make any assumptions about the underlying data distribution.

In KNN, the training dataset consists of feature vectors and their corresponding class labels (for classification) or target values (for regression). During the prediction phase, the algorithm calculates the distance between a test sample and all the training samples. The