Research 1. What modern approaches are used in stock forecasting? Question 2. What are the model features to be considered? 3. What improvements for existing stock forecasting models can be done by applying modern machine learning methods and techniques? 01 02 03 04 05 06 07 08 09 10 Wed Thu Fri Sut Sun Mon Tue Wed Thu Fri Task Id Task Name Start Deadline Hours Deliverable

1.0 Background research by evaluating different investment strategies and studying modern approaches and methods used for stock forecasting riticize on different investment strategies List, describe and discuss at least three and modern approaches for stock investment strategies and modern orecasting. Then define the data problem approaches that can assist for decisioning Research on different investment strategies 17Dec2022 31Dec2022 20 Understand big categories of investment Research on modern approaches and methods 17Dec2022 31Dec2022 search pros and cons for different sed for stock forecasting Summarization 28Dec2022 8Jan2023 dentify the most suitable modern ecasting approaches and area for 3Jan2023 8Jan2023 Write up on background and introduction 2.0 Study the Hong Kong stock market landscape by performing background rese Perform exploratory data analysis of long cm, mid-term and short-term study in to technical analysis that able to articulate ong Kong stock market. Describe the the market situation in 2022 Identify data scope to be collected 9Jan2023 15Jan2023 Find out the big waves of Hong Kong stock arket and summarize the analysis from ngest available period to zoom in to reco 16Jan2023 medium short term that reflect the market Summarize analytics finding 30Jan202 5Feb2023 Consolidate the analytics finding and support the model building objectives
High level describe the Hong Kong stock narket and summarize the exploratory data 3.0 Literature review to critically evaluate potential forecasting algorithms and its application tesearch relevant literatures that can Summarize literature review findings and rovide directions on potential forecasting lay down experimental design algorithms, such as logistic regression, neural network algorithms and their Literature review on logistics regression 17Dec2022 31Dec2022 ritically evaluate different usage by stic regression and its application Literature review on neural networks and 1Jan2023 15Jan2023 ritically evaluate different usage by neura LSTM works, LSTM and their application Literature review on how LSTM variants to 16Jan2023 31Jan2023 inderstand the theory of LSTM and its solve forecasting problems riants specific on forecasting problem 30Jan2023 5Feb2023 Define the experiment design of the ractical model building Dissertation write up 5Feb2023 11Feb2023 Dissertation on literature review 4.0 Discuss data collection process by Yahoo Finance Describe the data collection process with Document the process flow with easons on data period, collection method, corresponding consideration Research on available data collection method 6Feb2023 11Feb2023 Identify the available data collection nethod and corresponding advantages and 12Feb2023 State the available data collection method 12Feb2023 Dissertation write up aborate the consideration on relevant Document the study and discussion of professional, ethical, social and legal issues relevant professional, ethical, social and uring data collection, application adoption legal issues Research on social issues related to stock 15Feb2023 24Feb2023 cuss on social issue related to stock casting model Research on ethical issues related to stock 15Feb2023 24Feb2023 2 iscuss on ethical issue related to stock 15Feb2023 24Feb2023 iscuss on professional issue related to 15Feb2023 24Feb2023 Discuss on legal issue related to stock Research on legal issues related to stock 2 15Feb202 24Feb2023 ummarize and state the relevant social. Dissertation write up thical, professional and legal issue related o stock forecasting model 6.0 Build, train, deploy and visualize forecasting model(s) for evaluating the one with the highest prediction accuracy and efficiency to assist optimization of swing teratively develop, evaluate and fine tune a Develop Python coding of the model using the selected algorithm by data building and evaluation process trading in the Hong Kong stock market ollected, ie. Logistic regression and LSTM Learning Python to code for data preprocessing 25Feb2023 8Apr2023 50 Equip skills on Python code for data importation and preprocessing Equip skills on Python code for data earning Python to code for data modeling 10Apr2023 26May2023 Sprint 1: Develop, finetune and finalize 18May2023 evelop Python code for logistic regressi 29Apr202 eline model by logistic regression mode 7Jun2023 evelop Python code for LSTM modeling Sprint 3: Research for different variants and 18Jun2023 mmarize model performance measures inalize for the best data model bles and charts 19 Jun 2023 22Jun2023 Identify the model with the highest rediction accuracy and efficiency to assis ptimization of swing trading in the Hong ng stock market 7.0 Wrap up work done Wrap up dissertation and build presentation ummarize the model building process 23Jun2023 25Jun2023 20 Highlight the key steps of developing the Wrap up and final evaluation of the model 26Jun2023 30Jun2023 Summarize and discuss the performance Discuss the future enhancement 1 Iu12023 2 Iul2023 10 Discuss the future enhancement Dissertation write up 7In12023 40 Wrap up the practical work, conclusion and Viva preparation 3Jul2023 7Jul2023

Project Title A stock forecasting model for swing trading recommendations in the Hong Kong stock market

providing a visual result as a recommendation for further action.

To develop a LSTM forecasting model to assist optimization of swing trading investment strategy in the Hong Kong stock market by

| Aim | To develop a LSTM forecasting model to assist providing a visual result as a recommendation | st optimization o for further action | f swing trading inve n. | | | | | | | |
|------------------------|--|---|----------------------------------|---|---|--|--------------------------------|--|--|--|
| Research | What modern approaches are used in stock | | | | | | | | | |
| Question | What are the model features to be considere What improvements for existing stock force | ed? | in be done by apply | | | | | | | |
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| | Task Name nd research by evaluating different investment strat | Sterre tegies and studyin | | Sat Sun Mon Tue Wed Thu Fri Sat Sun Mon Tue Wed Thu Fri Sat Sun Mon Tue | Wed Thu Fri Sat Sun Mon Tue Wed | Thu Fri Sat Sun Mon Tue Wed Th | Mon Tue Wed Thu Fri Sat Sun | | | |
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| 1.1 | Research on different investment strategies | 17Dec2022 | 31Dec2022 | | | | | | | |
| 1.2 | Research on modern approaches and methods | 17Dec2022 | 31Dec2022 | | | | | | | |
| 1.3 | used for stock forecasting Summarization | 28Dec2022 | 8Jan2023 | | | | | | | |
| | | | | | | | | | | |
| 1.4 2.0 Study the I | Dissertation write up Hong Kong stock market landscape by performing | 3Jan2023 background rese | 8Jan2023 arch and technical a | | | | | | | |
| | | | | | | | | | | |
| 2.1 | Identify data scope to be collected | 9Jan2023 | 15Jan2023 | | | | | | | |
| 2.2 | D.C. Li. | 167 2022 | 45 12022 | | | | | | | |
| 2.2 | Perform data analysis | 16Jan2023 | 4Feb2023 | | | | | | | |
| 2.3 | Summarize analytics finding | 30Jan2023 | 5Feb2023 | | | | | | | |
| 2.4 | Dissertation write up | 4Feb2023 | 5Feb2023 | | | | | | | |
| 3.0 Literature | review to critically evaluate potential forecasting a | algorithms and its | application | | | | | | | |
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| 3.1 | Literature review on logistics regression | 17Dec2022 | 31Dec2022 | | | | | | | |
| 3.2 | Literature review on neural networks and LSTM | 1Jan2023 | 15Jan2023 | | | | | | | |
| 3.3 | Literature review on how LSTM variants to | 16Jan2023 | 31Jan2023 | | | | | | | |
| 3.4 | solve forecasting problems Summarization | 30Jan2023 | 5Feb2023 | | | | | | | |
| 3.5 | Dissertation write up | 5Feb2023 | 11Feb2023 | | | | | | | |
| | ata collection process by Yahoo Finance | | | | | | | | | |
| 4.1 | Research on available data collection method | 6Feb2023 | 11Feb2023 | | | | | | | |
| 4.2 | Dissertation write up | 12Feb2023 | 12Feb2023 | • | | | | | | |
| 5.0 Identificati | ion and discussion of relevant professional, ethical | l, social and legal | issues | _ | | | | | | |
| | | | | | | | | | | |
| 5.1 | Research on social issues related to stock forecasting model | 15Feb2023 | 24Feb2023 | | | | | | | |
| 5.2 | Research on ethical issues related to stock forecasting model | 15Feb2023 | 24Feb2023 | | | | | | | |
| 5.3 | Research on professional issues related to stock forecasting model | 15Feb2023 | 24Feb2023 | | | | | | | |
| 5.4 | Research on legal issues related to stock forecasting model | 15Feb2023 | 24Feb2023 | | | | | | | |
| 5.5 | Dissertation write up | 15Feb2023 | 24Feb2023 | | | | | | | |
| 6.0 Build, train | in, deploy and visualize forecasting model(s) for ev | valuating the one | with the highest pred | | | | | | | |
| trading in the I | Hong Kong stock market | | | | | | | | | |
| 6.1 | Learning Python to code for data preprocessing | 25Feb2023 | 8Apr2023 | | | | | | | |
| 6.2 | Learning Python to code for data modeling | 10Apr2023 | 26May2023 | | | | | | | |
| 6.3 | Sprint 1: Develop, finetune and finalize | 29Apr2023 | 18May2023 | | | | | | | |
| 6.4 | baseline model by logistic regression model Sprint 2: Develop, finetune and finalize LSTM modeling | 19May2023 | 7Jun2023 | | | | | | | |
| 6.5 | Sprint 3: Research for different variants and finalize for the best data model | 30May2023 | 18Jun2023 | | | | | | | |
| 6.6 | Summarization | 19Jun2023 | 22Jun2023 | | | | | | | |
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| 7.0 Wrap up w | | | | | | | | | | |
| 7.1 | Summarize the model building process | 23Jun2023 | 25Jun2023 | | | | | | | |
| 7.2 | Wrap up and final evaluation of the model outputs | 26Jun2023 | 30Jun2023 | | | | | | | |
| 7.3 | Discuss the future enhancement | 1Jul2023 | | | | | | | | |
| 7.4 | Dissertation write up | 3Jul2023 | 7Jul2023 | | | | | | | |
| 7.5 | Viva preparation | 3Jul2023 | 7Jul2023 | | | | I | | | |
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Project Title A stock forecasting model for swing trading recommendations in the Hong Kong :

Aim To develop a LSTM forecasting model to assist optimization of swing trading inve

| Question | What modern approaches are used in stock What are the model features to be considere What improvements for existing stock forece | d? | be done by apply | , | Jun 23 | | | Jul 23 | |
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| Task Id | Task Name | Start | Deadline | 09 10 11 12 13 14 15 16 17 18 19 20 2 Tue Wed Thu Fri Sat Sun Mon Tue Wed Thu Fri Sat Su | 1 22 23 24 25 26 27 28 29 30 31 | 01 02 03 04 05 06 07 08 Thu En Sat Sun Mon Tue Wed Thu | 09 10 11 12 13 14 15 16 17 18 | 19 20 21 22 23 24 25 26 27 28 | 29 30 01 02 03 04 05 06 07 |
| | d research by evaluating different investment strain | | | | 11 100 100 100 110 111 000 0011 1001 100 100 | 110 110 1001 1001 100 100 | 111 341 341 100 100 110 111 341 341 | 100 100 110 111 111 100 100 100 100 | 110 111 Out July 100 100 110 111 |
| 1.1 | Research on different investment strategies | 17Dec2022 | 31Dec2022 | | | | | | |
| 1.2 | Research on modern approaches and methods used for stock forecasting | 17Dec2022 | 31Dec2022 | 1 | | | | | |
| 1.3 | Summarization | 28Dec2022 | 8Jan2023 | 1 | | | | | |
| 1.4 | Dissertation write up | 3Jan2023 | 8Jan2023 | 1 | | | | | |
| | long Kong stock market landscape by performing | | | | | | | | |
| 2.1 | Identify data scope to be collected | 9Jan2023 | 15Jan2023 | | | | | | |
| | racinity and scope to be concered |)Juin2023 | 1334112023 | 1 | | | | | |
| 2.2 | Perform data analysis | 16Jan2023 | 4Feb2023 | 1 | | | | | |
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| 2.3 | Summarize analytics finding | 30Jan2023 | 5Feb2023 | | | | | | |
| 2.4 | Dissertation write up | 4Feb2023 | 5Feb2023 | | | | | | |
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| 3.3 | Literature review on how LSTM variants to solve forecasting problems | 16Jan2023 | 31Jan2023 | 1 | | | | | |
| 3.4 | Summarization | 30Jan2023 | 5Feb2023 | 1 | | | | | |
| | Dissertation write up a collection process by Yahoo Finance | 5Feb2023 | 11Feb2023 | | | | | | |
| 4.0 Discuss data | Research on available data collection method | 6Feb2023 | 11Feb2023 | | | | | | |
| 4.1 | Research on available data confection memod | 0Fe02023 | 11102023 | 1 | | | | | |
| 4.2 | Dissertation write up | 12Feb2023 | 12Feb2023 | 1 | | | | | |
| 5.0 Identification | on and discussion of relevant professional, ethical | , social and legal is | isues | | | | | | |
| 5.1 | Research on social issues related to stock | 15Feb2023 | 24Feb2023 | | | | | | |
| 5.2 | forecasting model Research on ethical issues related to stock | 15Feb2023 | 24Feb2023 | 1 | | | | | |
| 5.3 | forecasting model Research on professional issues related to stock forecasting model | 15Feb2023 | 24Feb2023 | 1 | | | | | |
| 5.4 | Research on legal issues related to stock forecasting model | 15Feb2023 | 24Feb2023 | 1 | | | | | |
| 5.5 | Dissertation write up | 15Feb2023 | 24Feb2023 | | | | | | |
| 6.0 Build, train trading in the H | , deploy and visualize forecasting model(s) for every cong Kong stock market | valuating the one w | ith the highest pred | | | | | | |
| 6.1 | Learning Python to code for data preprocessing | 25Feb2023 | 8Apr2023 | | | | | | |
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| | baseline model by logistic regression model Sprint 2: Develop, finetune and finalize LSTM | 19May2023 | 7Jun2023 | | | | | | |
| 6.5 | modeling Sprint 3: Research for different variants and | 30May2023 | 18Jun2023 | | | | | | |
| 6.6 | finalize for the best data model Summarization | 19Jun2023 | 22Jun2023 | 1 | | | | | |
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| 7.0 Wrap up w | ork done | | | | | | | | |
| 7.1 | Summarize the model building process | 23Jun2023 | 25Jun2023 | | | | | | |
| 7.2 | Wrap up and final evaluation of the model outputs | 26Jun2023 | 30Jun2023 | | | | | | |
| | Discuss the future enhancement | 1Jul2023 | 2Jul2023 | 1 | | | | | |
| 7.4 | Dissertation write up | 3Jul2023 | 7Jul2023 | | | | | | |
| 7.5 | Viva preparation | 3Jul2023 | 7Jul2023 | I. | l | | | | |
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Project Title A stock forecasting model for swing trading recommendations in the Hong Kong state To develop a LSTM forecasting model to assist optimization of swing trading inversity providing a visual result as a recommendation for further action.