CDS590 Consultancy Project & Practicum Evaluation Form (Mentor)

Candidate Name : MUHAMMAD AZZUBAIR BIN AZEMAN

Project Title : PREDICTING REAL PRIVATE CONSUMPTION USING TIME SERIES DATA : A MACHINE LEARNING APPROACH

Name of evaluator : PATRICK LAM KAR JUN

Name of organization : DATAMICRON SYSTEMS SDN BHD

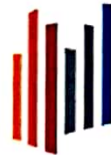| Element	Weight	Very Poor (0-1)	Poor (2-3)	Satisfactory (4-5)	Good (6-7)	Very Good (8-10)	Mark Multiplier	Total Marks
Log Book (5%)								
Log Book	10					/	X0.5	5 /5
Quality of Work (5%)								
Project Management	5					/	X0.25	2.5 /2.5
Activity Coordination & Decision Making	5					/	X0.25	2.5 /2.5
						Total (Quality of Work)		5 /5
Total	Log Book: 5 /5 + Quality of Work: 5 /5							10 /10

Signature: _____

Date: 12 / 1 / 2021

Note: -

Components in Log Book:-

1. Activity plan
2. Number of contact hours [Minimum 98 hours]
3. Meeting with mentor [Minimum 6 hours]
4. Activity log

Project Consultancy and Practicum

DataMicron Systems Sdn Bhd

Practicum Logbook submitted in partial fulfilment of the requirement for

Masters of Science (Data Science and Analytics)

For

Dr. Nasuha Lee Abdullah

Mohd Azam Osman

By

Muhammad Azzubair bin Azeman

P-COM0019/19

Session

Semester 2020 / 2021

DATE	WORK DONE	CONTACT HOURS	REMARKS
12/10/2020	Meeting with Client together with mentor.	2 hours	Client presented their problem statement, current methodology, and solution expectations. In addition, they shared their dataset. Problem Statement: - Inaccurate PCI Forecasting Solution Expectation: - More Accurate PCI Forecasting using Machine Learning
12/10/2020	Internal Meeting with Mentor and colleagues	2 hours	Mentor discussed strategies to meet up clients' expectations. Have to find additional variables to enrich given dataset and more accurate PCI forecasting.
13/10/2020	Researched on additional variables referring on published papers	7.75 hours	Found 2 additional variables based on published papers:
14/10/2020	Presented to Mentor on researched additional variables.	1 hour	Mentor approved on the additional attributes and decided to proceed with data science tasks: - Additional Data Collection - Data Modelling - Future PCI Forecasting
14/10/2020	Collected Additional Variables	3 hours	Searched additional variables in official data sources such as: - Department of Statistics Malaysia (DOSM) - Bank Negara Malaysia (BNM)

14/10/2020	Data Preprocessing	0.25 hours	Filter Dataset - Discarded invalid values (zeros) - Omitted invalid attributes Transform Dataset - Aggregated values from daily to quarterly values
15/10/2020	Data Modelling	36 hours	Modelling Dataset - Researched Modelling python codes for Bagging, Random Forest, AdaBoost, and XGBoost. - Evaluated the Models
19/10/2020	Model Optimisation	36 hours	Compared Model Performance - Compared before and after Feature Selection - Compared before and After tuning window size - Compared before and after combining Feature Selection and Tuning Horizon Size combination
26/10/2020	Model Evaluation	24 hours	Evaluated Model Performance - RMSE during Model Development and Optimisation were evaluated. - Discussed the effect of window size and feature selection with model performance (RMSE) - Compared [prediction errors between ML models with statistical models.

2/11/2020	Model Forecasting	24 hours	Forecasted 1 period in future - Using the top three performing models, new future values were generated and input into the models to predict for future PCI. - Models were tuned to achieve better performing forecasting accuracy by comparing with historical PCI values. - The best forecasting hyperparameters were set to forecast future PCI values
30/11/2020	Modelling and Forecasting Presentation to mentor	2 hours	Mentor approves on the methodology and outcomes. The forecasting values will be evaluated by comparing with published PCI values that will be released by November 2020.

Remarks by Mentor	Azzubair always come in on time, follow schedule and adhere to designated lunch time. He works best for the team and always ready to help other staffs in assisting their tasks. He can adapt easily to multitasking jobs given by team leader and come out with good outcomes that benefits the team.

Mentor's Signature: .... Date: 12/1/2021