Capstone Topics

(Logistic shipping)

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GitHub Link : https://github.com/asyrofwajdi/shipping-logistic.git

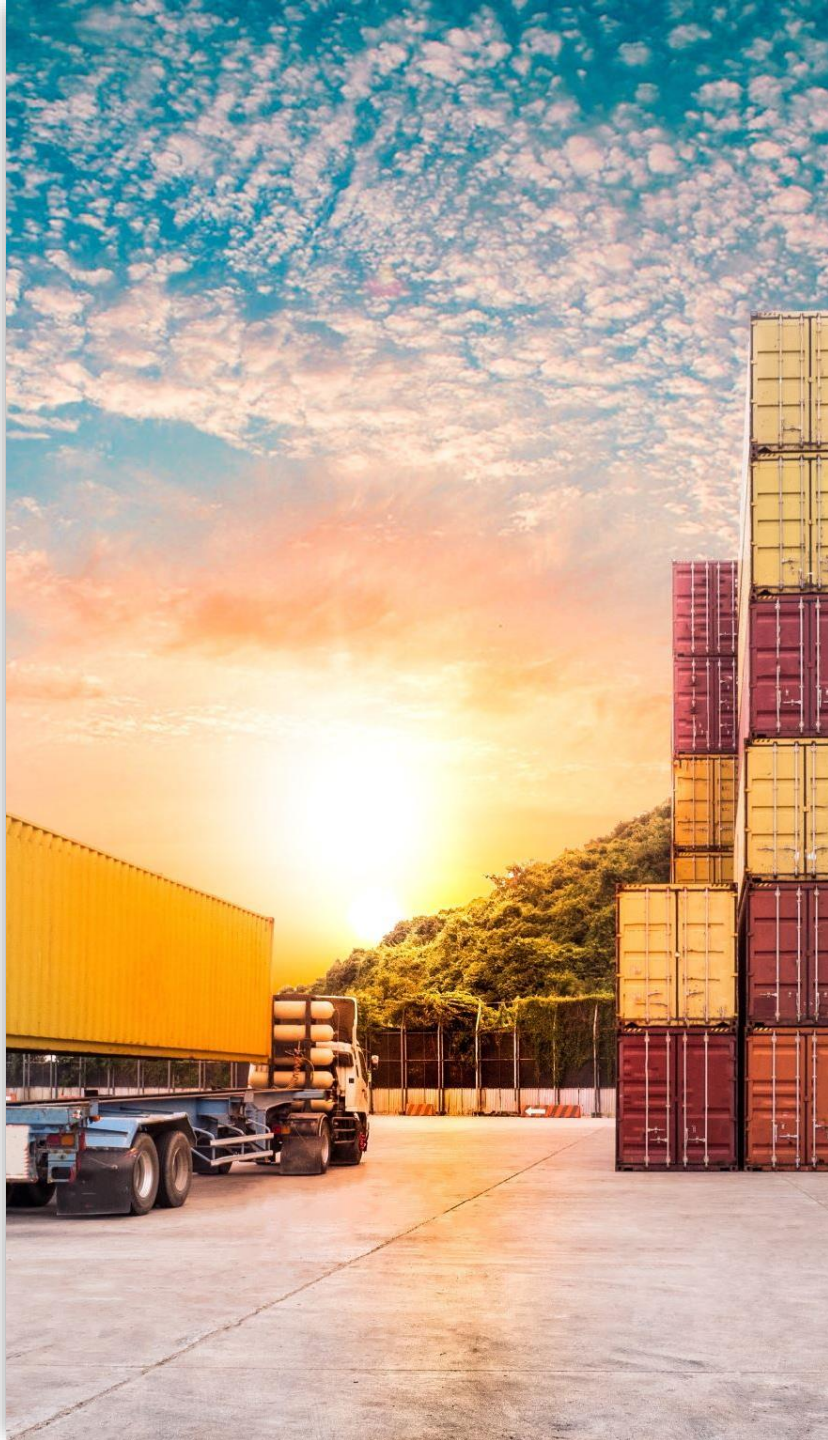
Problem Statement

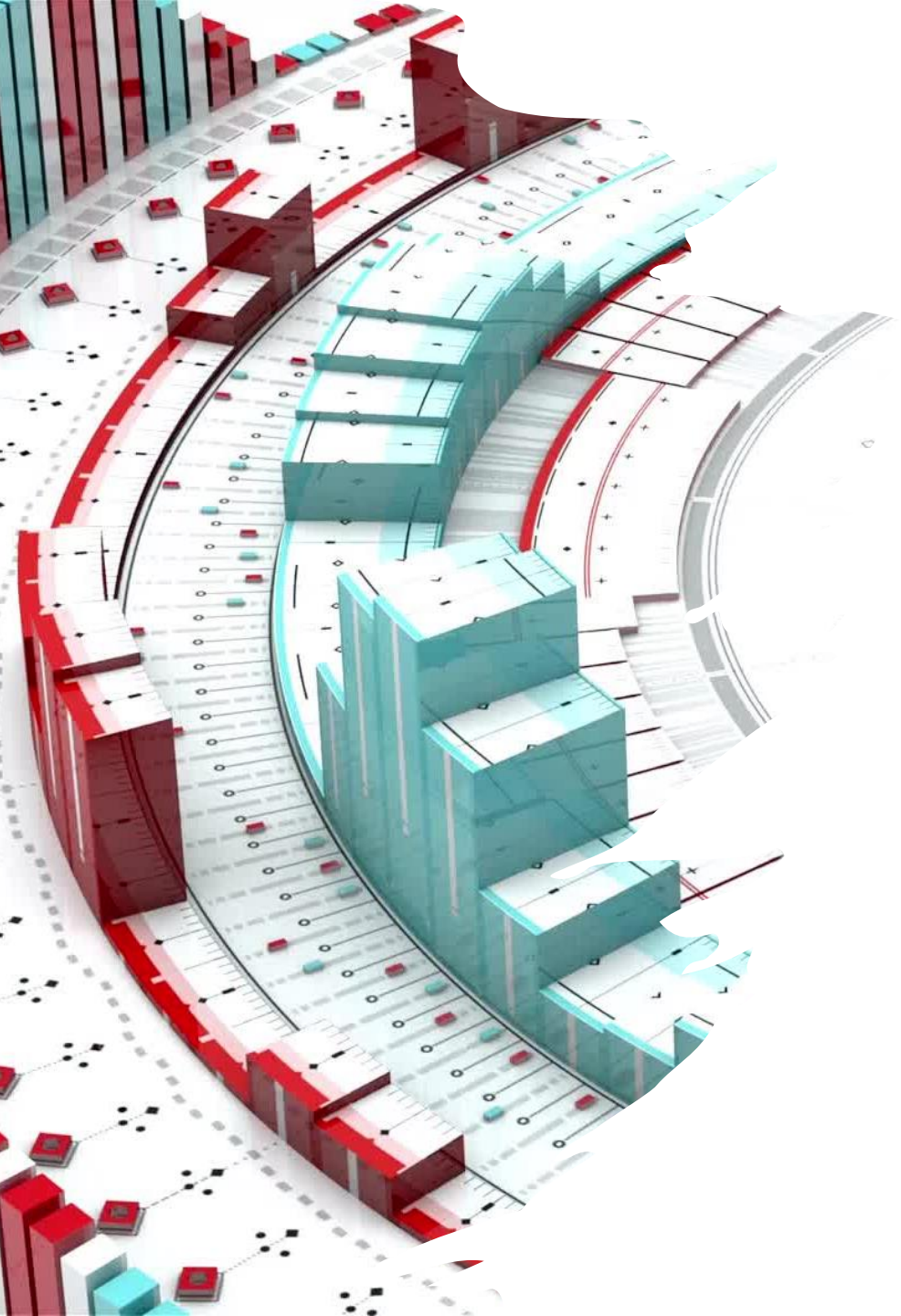
Logistic companies are currently growing rapidly. To keep the company's performance constantly increasing. Customer satisfaction needs to be taken into account.

Major factor to ensure customer satisfaction is that each parcel needs to be delivered on time and there are several factors that affect on time delivery. If logistic company not able to deliver customer’s parcel on time, then the customer will lost of interest and give a negative impact to the company such as financial loss and loss of trust. This issues is the main objective for the company to solved it and improve. According to research , accuracy is one of the criteria that customers were satisfied most. (Wan Ahmad, W. N. K., Shamsuddin, A., & Tham, J. H. , 2021).

In order to identify whether a shipment will reach on time or not , I will build a classification model to predict whether a shipment will reach on time or not from several factor such as mode of transport and so on, so that the important result will be used by logistic department, customer services and higher management to improve.

References : Wan Ahmad, W. N. K., Shamsuddin, A., & Tham, J. H. (2021). Customer Satisfaction of Logistics Providers’ Services. *Research in Management of Technology and Business*, *2*(2), 220-228.





Goal

Model performance will be assessed using accuracy, precision, recall, and F1 score. The goal is to achieve an accuracy of at least 70%

The project is appropriately scoped as it involves building a classification model using a dataset with 10,999 entries and a manageable number of features. This scope is neither too aggressive nor too easy.

To predict whether shipments will arrive on time or not is valuable for logistics companies to improve their service, customer satisfaction, and operational efficiency. The insights can help in identifying factors that contribute to delays and optimizing the shipping process.

The project will be completed within three weeks, including data preprocessing, model development, evaluation, and reporting.

Capstone Roadmap

Task Name	Start Date	End Date	Status
Goal and Problem Statement	02-June	02-June	Completed
EDA	02-June	3-June	Completed
Processing	4-June	5-June	Completed
Evaluation	6-June	15-June	In progress
Report Documentation	15-June	23-June	In progress

Modeling

1. Do you have data fully in hand and if not, what blockers are you facing?	•Yes , all data have been acquired during Part 1 , the source of data is from Kaggle
2. Have you done a full EDA on all of your data?	•Yes , full EDA had been completed with data visualization
3. Have you begun the modeling process? How accurate are your predictions so far?	•Yes, modelling process has begun with several classification model such as Logistic Regression, Dicision Tree and Random forest
4. What blockers are you facing, including processing power, data acquisition, modeling difficulties, data cleaning, etc.? How can we help you overcome those challenges?	•Manage to achieve 68% prediction accuracy instead of desired 70% accuracy. After discussion, there are several steps to improve such as hyperparameter, normalization , model evaluation and test size
5. Have you changed topics since your lightning talk? Since you submitted your Problem Statement? If so, do you have the necessary data in hand (and the requisite EDA completed) to continue moving forward?	•No topic change
6. What is your timeline for the next week and a half? What do you _have_ to get done versus what would you _like_ to get done?	•To improve model evaluation
7. What topics do you want to discuss during your 1:1?	•Model evaluation and understanding