



SUMMARY

Supervised Learning ++ : Predicting ETA Using Mobility Data

by : Dhea Fajriati Anas
Data Fellowship Batch 6





What is ETA ?

Estimated time of arrival (ETA) is the time interval at which a certain vehicle will arrive its destination. It is a transportation term that defines the time remaining for certain aircraft, automobile, ship or emergency service to reach the place it is directed to.

ETA is the estimated time between a **service demand and its delivery.**



Where do you usually find terminology of ETA?

Navigation

e.g. Google Maps,
Waze, etc.



Expedition

e.g. SiCepat, JNT,
TIKI, etc.

E-Hailing

e.g. Gojek, Grab,
Uber, etc.



The Component of ETA Prediction

1st



Traffic

2nd



Routing

3rd



Map Data

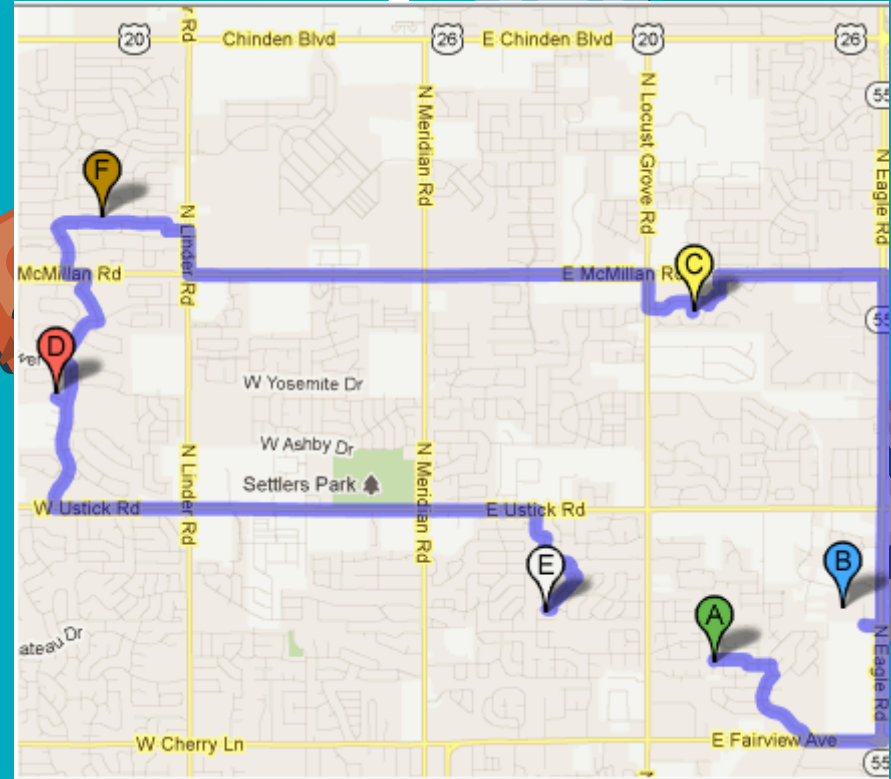
4th



Machine
Learning

ROUTING

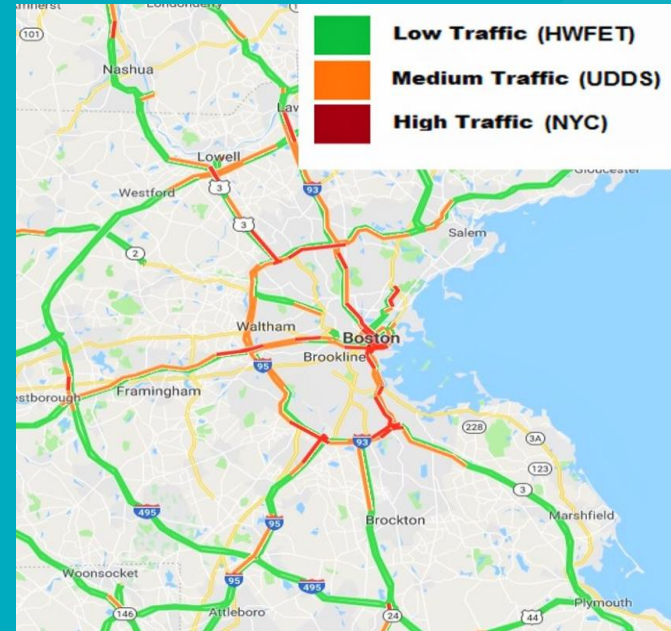
Select the edges with the least weight from one node to another. **Dijkstra's algorithm** is an algorithm for finding the shortest paths between nodes in a graph, which may present.



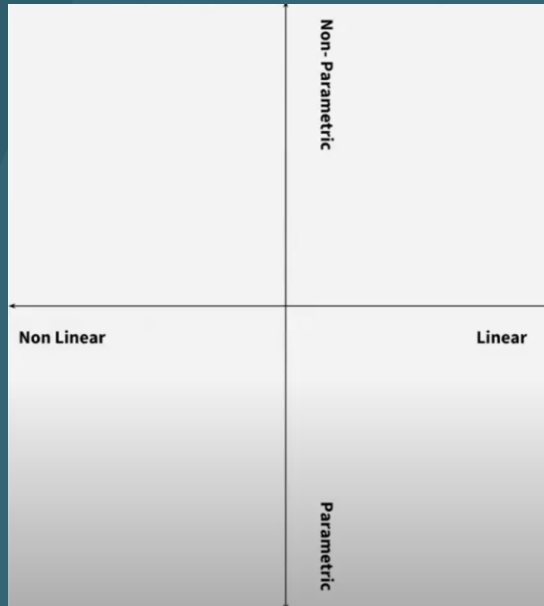


The weight of edges (density of vehicles on the road).

TRAFFIC



MACHINE LEARNING



Method to build ETA prediction model for new input data.

Non-linear:

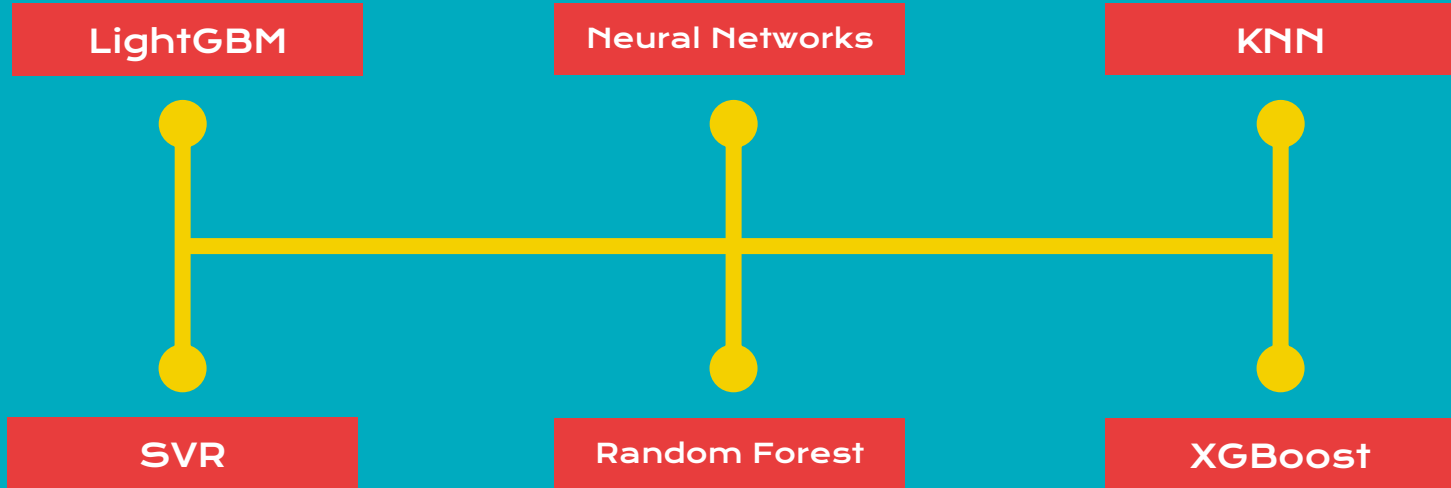
- $ETA = f(\text{location})$
- $ETA = f(\text{hour of day})$

Non-parametric:

- No prior info on the interaction between different variables and ETA

ETA is reliable if
Predicted ETA = Actual ETA

Machine Learning Alghoritm





THANK YOU !