Traffic Volume Prediction |Time-Series Models

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01

Data Gathering

01 Data Gathering(Interstate 94 Westbound Traffic Volume)

Data Source

UC Irvine
Machine Learning Repository

Location

USA
Midway
between
Minneapolis
and **Saint Paul**

01 Data Gathering(Interstate 94 Westbound Traffic Volume)

8 Features

48204 Instances

Hourly weather features and holidays included for impacts on traffic volume

02
EDA & Data Preprocessing

02 EDA & Data Preprocessing

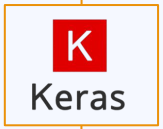
Tools Used..

01

Google Colab

is a hosted Jupyter Notebook service

02



Keras

It's a gas giant and the biggest planet in the Solar System

03

Tensorflow

end-to-end open source machine learning platform

02 EDA & Data Preprocessing

Null & Duplicates Values

Despite being red, Mars is **very cold**

MinMaxScaler

It’s the farthest planet from the Sun

Seasonal decompose

Jupiter is the biggest planet of them all

Label Encoder

It’s a gas giant and has **several rings**

Split Data

into training and testing sets

03

Model Development & Training

03 Model Development & Training

RNN	LSTM	GRU
• Sequential • optimizer (adam) • RMSE	• Sequential • optimizer (adam) • RMSE	• Sequential • optimizer (adam) • RMSE

Layers Architectur

7 Layers (
128,
dropout 0.2,
128,
dropout 0.2,
75,
dropout 0.2,
1 Output
)

03 Model Development & Training

Model	Epoch	Batch size	Loss
RNN	50	64	0.016
RNN	10	64	0.012
LSTM	50	64	0.008
LSTM	10	64	0.0002
GRU	50	64	0.103
GRU	10	64	0.012

Thank you for listening!

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