



Team Name- StockMind.ai

# Stock Price Prediction Using LSTM Algorithm

New Era New Technology!

# Problem Statement

This project is about developing a predictive model that uses historical stock price data to predict future stock prices.

The project aims to leverage deep learning, specifically LSTM (Long Short-Term Memory) neural networks, to build a model that can capture complex patterns and relationships in data and make accurate predictions.

In the project, historical stock price data is collected, cleaned, and preprocessed, the LSTM model is trained on the data, and its performance is evaluated using various metrics to assess how well the model predicts future stock prices.

# Literature Review

S.No.	Paper Name And Year	Inferences
1.	"Stock Price Prediction Using LSTM and Feature Engineering" by Ayush Agrawal - 2018	This paper proposes a feature engineering approach to enhance the performance of the LSTM model for stock price prediction.
2.	"Stock Price Prediction Using Deep Learning Techniques: A Survey" by Aditya Tiwari - 2021	This paper provides a comprehensive survey of various deep-learning techniques used for stock price prediction, including LSTM, GRU, CNN, and DNN.
3.	"Predicting Stock Prices Using LSTM Networks" by Felix Loutrel - 2019	This paper explores the use of LSTM networks for predicting stock prices using daily historical data.

# Limitations

- Limited historical data
- Noisy and non-stationary data
- Limited input variables
- Limited prediction horizon

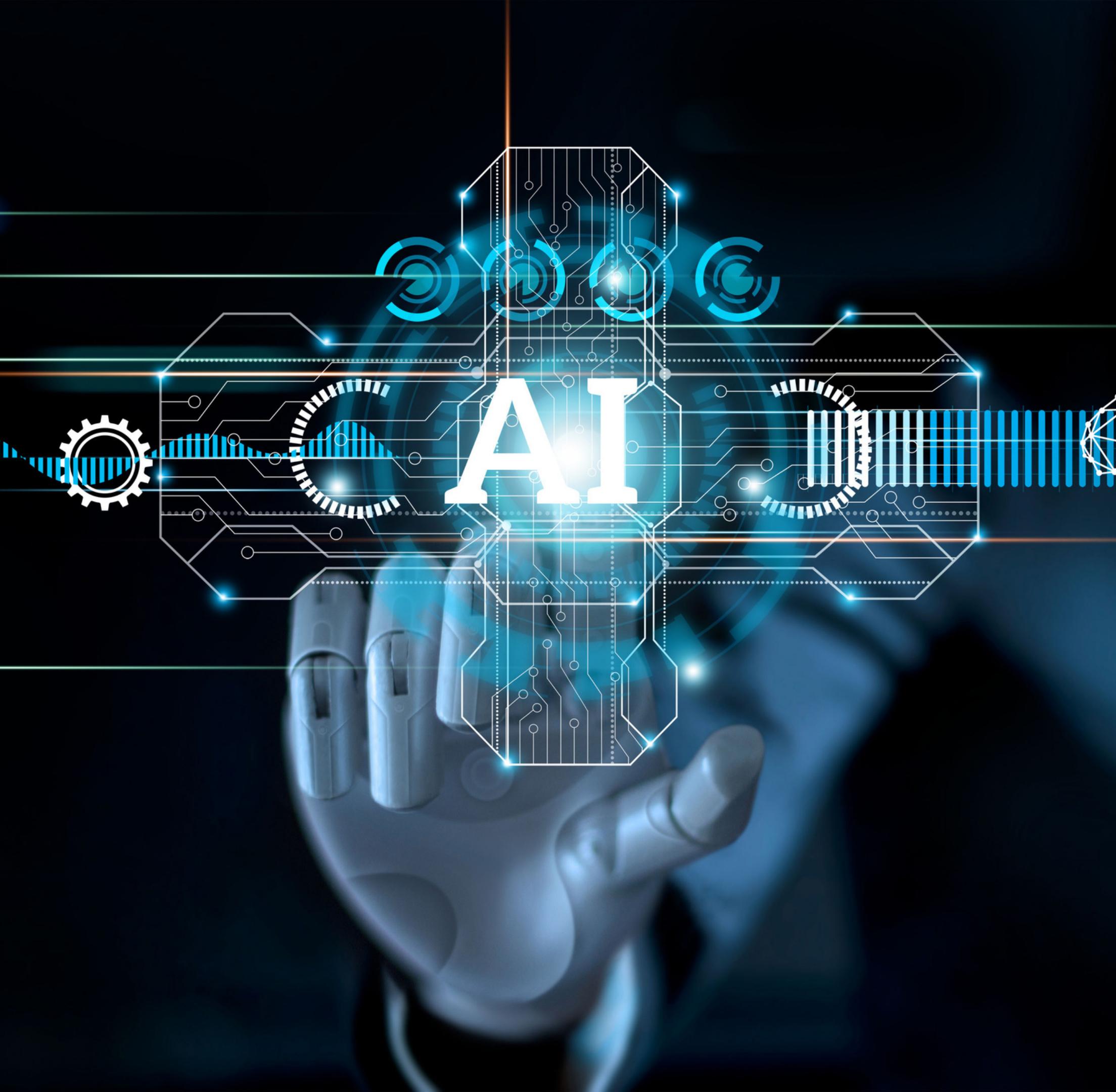


# Objectives

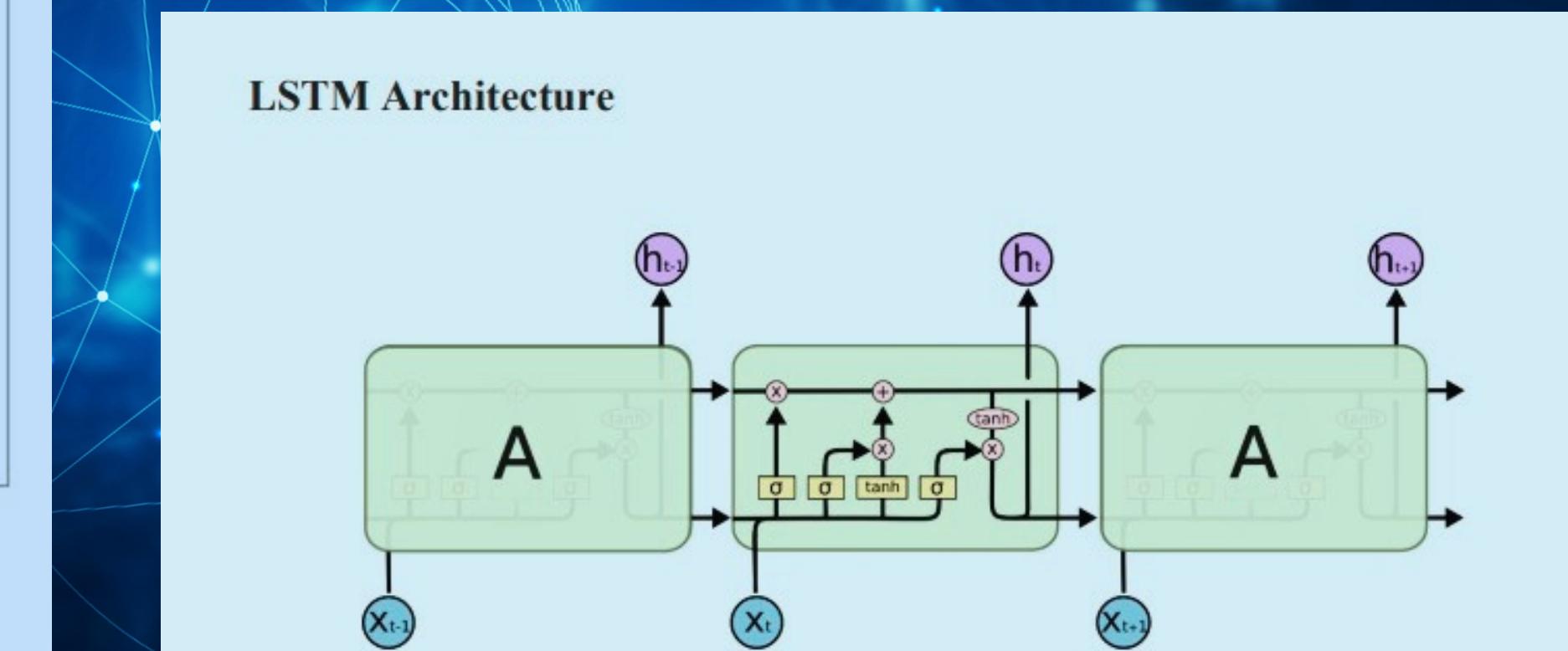
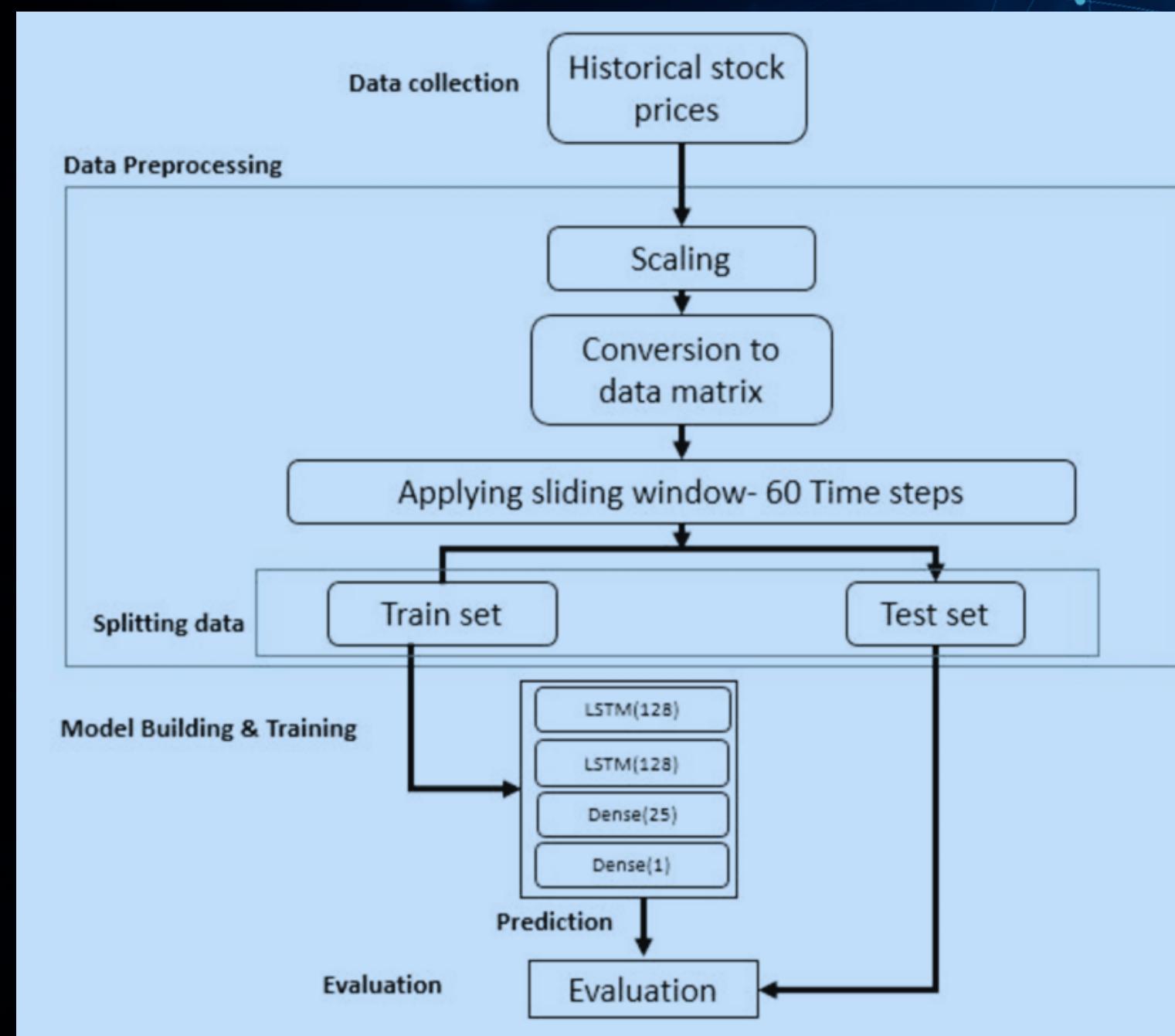
The primary objective of stock prediction using LSTM is to forecast future prices or trends in the stock market.

Specifically, the objectives can be:

- Short-term prediction
- Long-term prediction
- Risk management
- Market analysis



# Architecture Diagram



# Modules

- **Task 1** - Getting started with required files and dependencies
- **Task 2** - Creating a basic website layout
- **Task 3** - Styling the application's web page
- **Task 4** - Generating a company's information and graphs
- **Task 5** - Creating the machine learning model

We are going to use the yfinance python library to get company information (name, logo, and description) and stock price history. Dash's callback functions will be used to trigger updates based on changes in inputs.



We are now going to build a machine learning model - Support Vector Regression (SVR) for predicting the stock prices.

# Thank You!



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