# DISJOIN

Technical Document

# Overview

Covid 19 pandemic has changed the way we live and shop.

To ensure social distancing and avoid crowd at grocery stores, here we are, with a solution!

Real-time live updates on the customer count at a given store.

Prediction for the next 2 days to help you pick a time to visit the store

# Problems being solved

- Lack of social distancing
- Long wait time in queue
- Time management for the grocery admins
- High density of people in the store

# Tech Stack

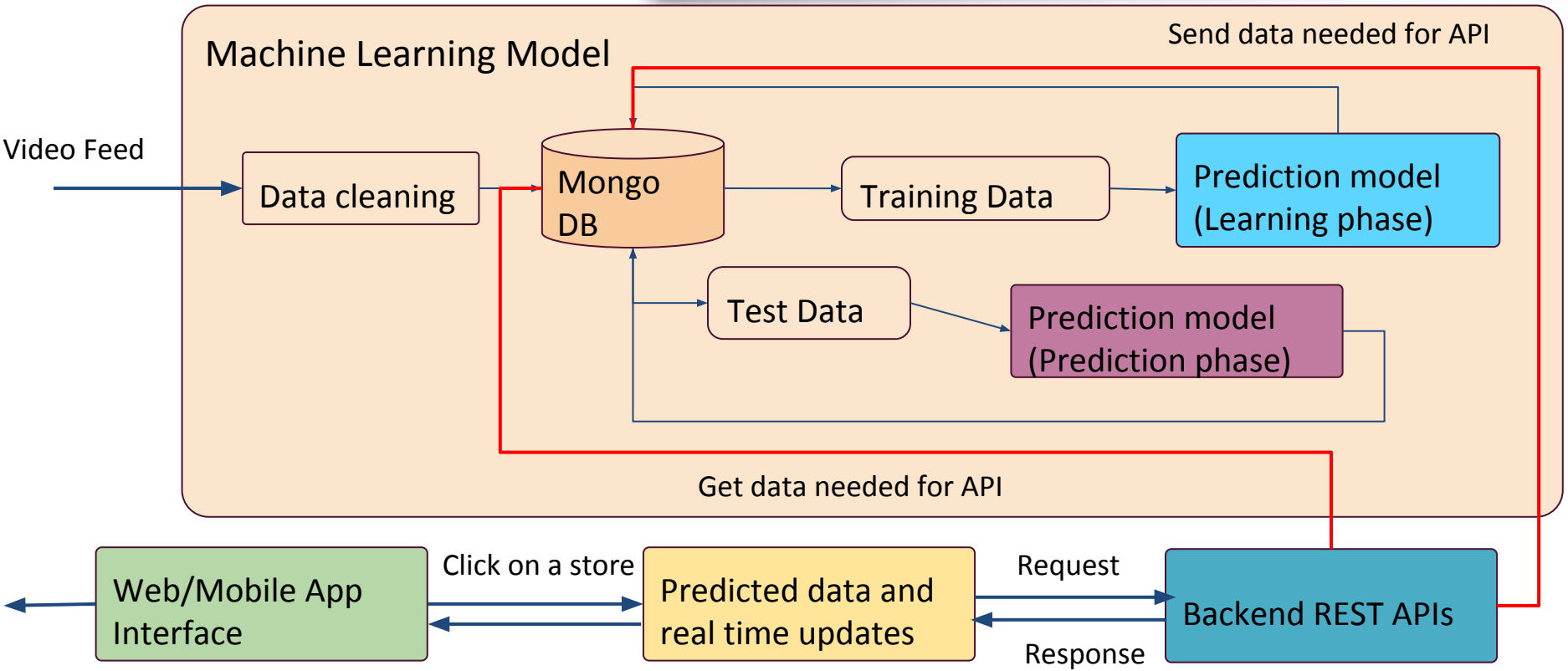
Front end : React js

Backend : REST API hosted on Heroku

Supervised Machine learning Model : Python (Tensorflow)

Data Storage : Mongo DB

# Architecture



# Architecture description

Prediction Model:

- Data is cleaned and processed from the video feed
- This training data is stored in Mongo DB
- Prediction algorithms are applied to the real time test data and for the next two days, store customer count is predicted based on the last two weeks historical data. This is plotted on a histogram
- Live updates of a store’s customer count is also provided in a foot traffic meter that fluctuates as the customer count changes.

# Architecture description

Backend APIs:

- API for fetching the list of stores.
- API for fetching customer count to be shown in live foot traffic meter
- API for getting the time series data to show the past data on a histogram

Frontend:

- List of stores layout
- Click on a store to view data for a single store
- Store detail page has live foot traffic meter - shows percentage and count of customers
- Store detail page has histogram plotted for the past two weeks

# UML - Sequence Diagram