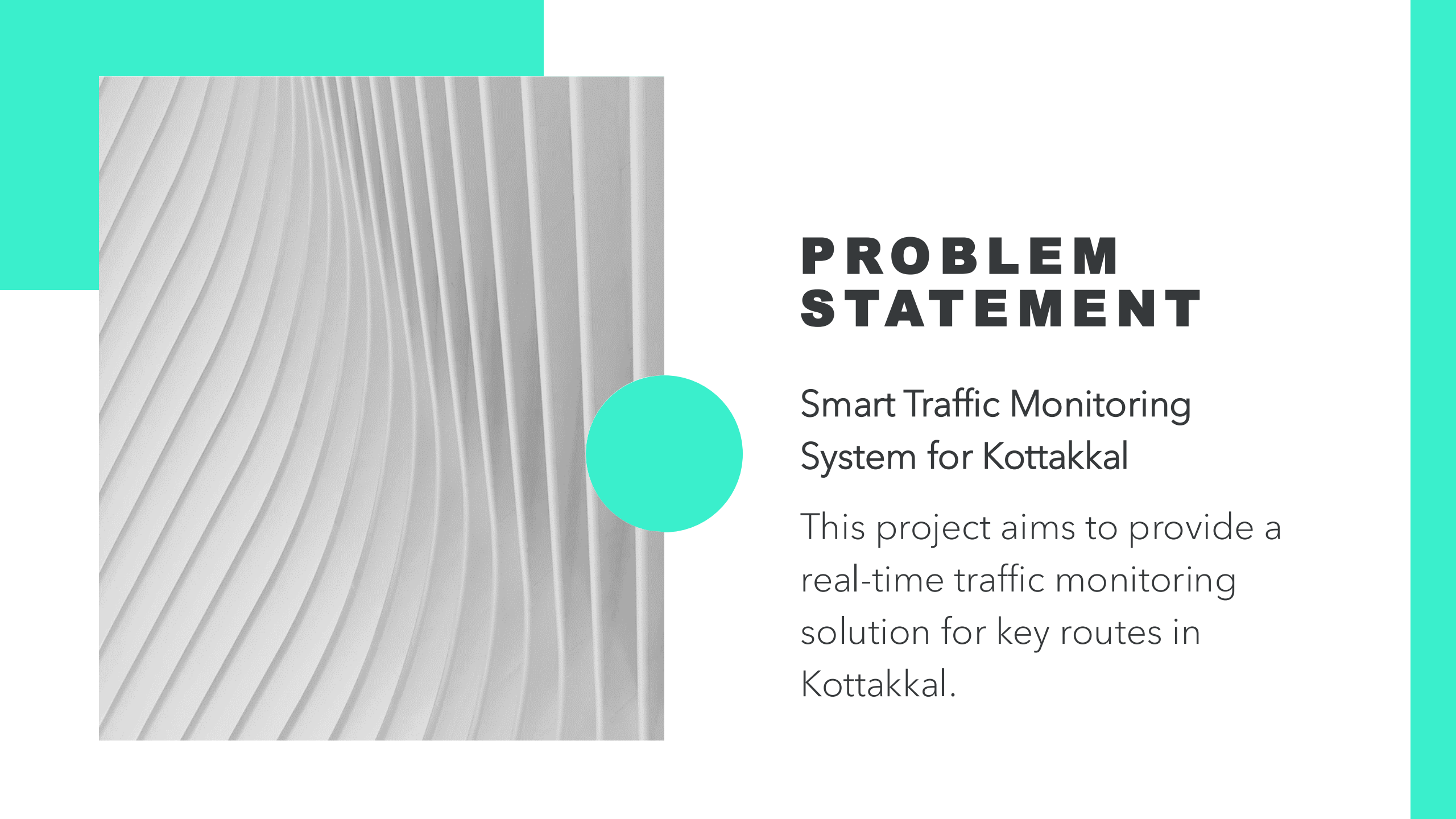


MASTERDEVS

KOTTAKKAL TRAFFIC MONITORING SYSTEM





PROBLEM STATEMENT

Smart Traffic Monitoring System for Kottakkal

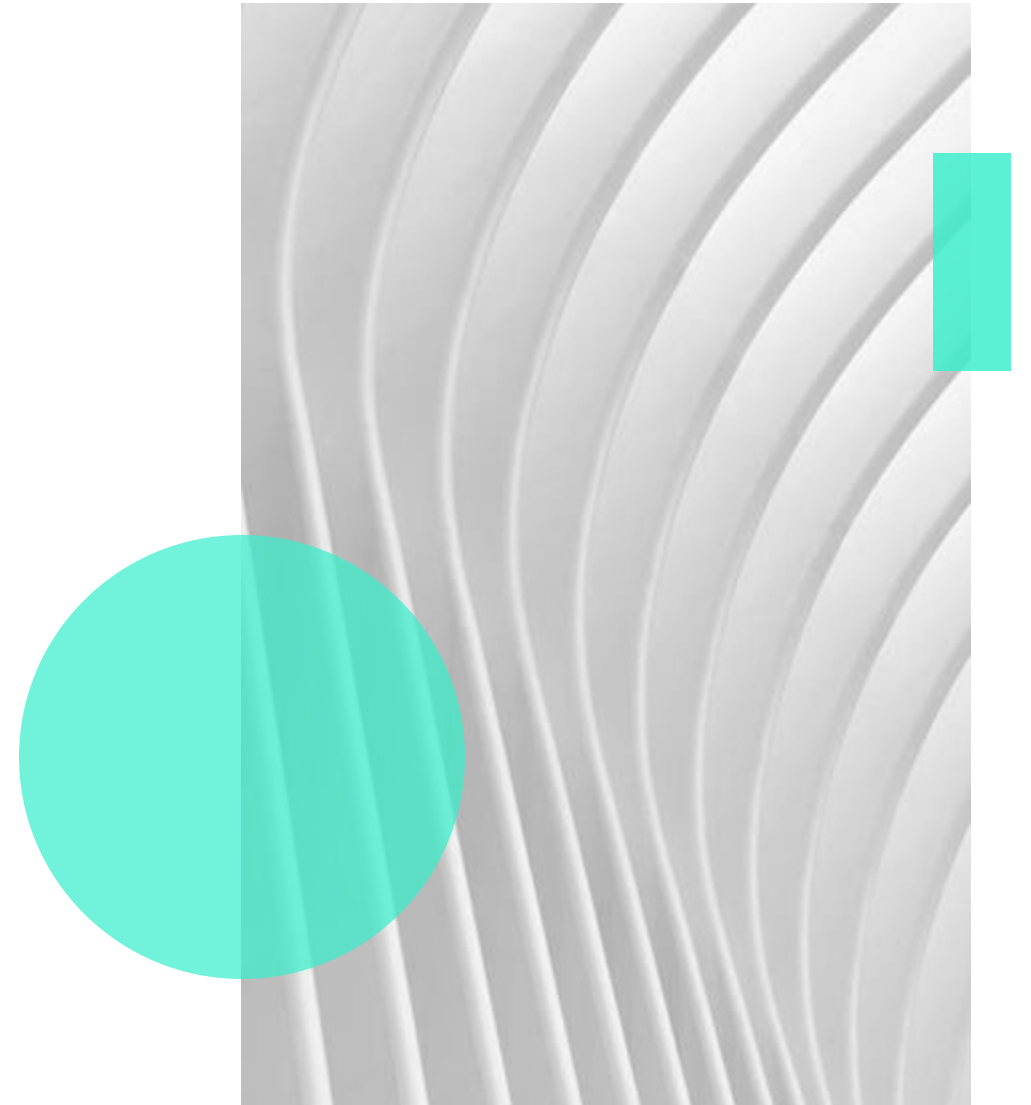
This project aims to provide a real-time traffic monitoring solution for key routes in Kottakkal.

SOLUTION

We built a low-cost traffic monitoring system using Python, FastAPI, YOLOv8, and OpenStreetMap. Our system detects traffic levels using just image snapshots from live feed and shows the traffic condition on a live web dashboard."

Demo what it does:

- Shows live traffic level on routes (Low / Moderate / High)
- Color-coded polylines on the map
- Traffic summary table for all routes
- Suggests alternate routes



HOW IT WORKS



A. BACKEND

- PYTHON + FASTAPI
- YOLOV8 MODEL DETECTS VEHICLES FROM SAMPLE IMAGES
- ROUTES PROCESSES IN BACKGROUND EVERY 13S
- RETURNS JSON DATA WITH TRAFFIC LEVELS

B. FRONTEND

- REACT + LEAFLET.JS + OPENSTREETMAP
- SHOWS LIVE MAP WITH COLOR-CODED ROUTES (GREEN/ORANGE/RED)
- SUMMARY DASHBOARD OF ALL ROUTES
- DASHBOARD UPDATES LIVE

C. TECH USED

- YOLOV8 (ULTRALYTICS)
- FASTAPI (API BACKEND)
- LEAFLET.JS (MAP RENDERING)
- REACT (UI)



THANK YOU

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