

FINAL YEAR PROJECT
PHASE 2- STAGE 1

AUTONOMOUS VEHICLE NAVIGATION

Presented by TEAM 72

GUIDE:
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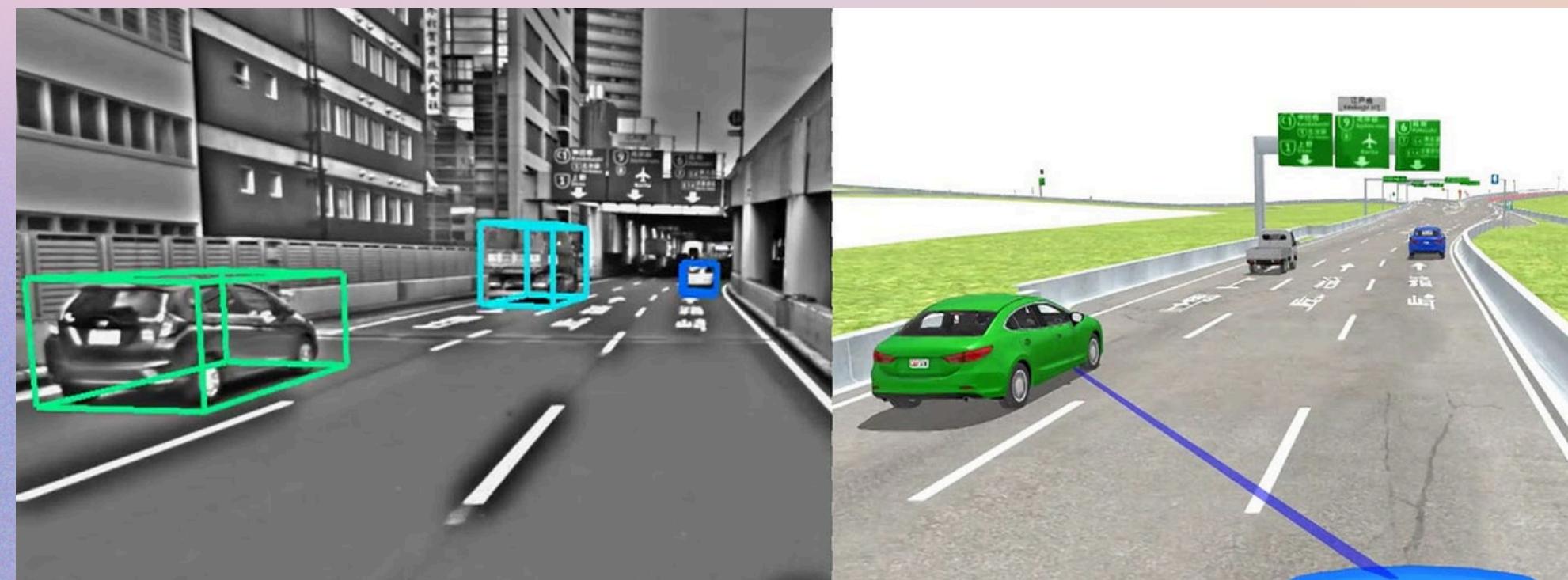
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INTRODUCTION

Autonomous vehicle navigation is a rapidly advancing technology that enables vehicles to operate without human intervention. It combines artificial intelligence, sensors, and real-time data processing to navigate safely and efficiently. By integrating GPS, LiDAR, cameras, and advanced algorithms, autonomous systems can perceive their surroundings, make decisions, and adapt to dynamic road conditions. This innovation has the potential to enhance road safety, reduce traffic congestion, and revolutionize transportation.



LITERATURE SURVEY

1. "END-TO-END LEARNING FOR SELF-DRIVING CARS"

- Authors: Mariusz Bojarski, Davide Del Testa, Daniel Dworakowski, et al.
- Published by: [NVIDIA](#) Corporation, 2016.

2. "A SURVEY OF AUTONOMOUS VEHICLE LOCALIZATION TECHNIQUES"

- Authors: Chen, J., Xu, C., Zhang, G., & Li, S.
- Published in: [IEEE](#) Transactions on Intelligent Transportation Systems, 2019.

3. "DEEP REINFORCEMENT LEARNING FOR AUTONOMOUS DRIVING: A REVIEW"

- Authors: Kiran K. K., Liu, Z., & Zhang, Y.
- Published in: [IEEE](#) Transactions on Intelligent Transportation Systems, 2021.

4. "MULTI-AGENT DEEP REINFORCEMENT LEARNING FOR AUTONOMOUS DRIVING"

- Authors: Wei, W., Zhang, H., & Sun, S.
- Published in: [IEEE](#) Transactions on Intelligent Transportation Systems, 2021.

OBJECTIVES:

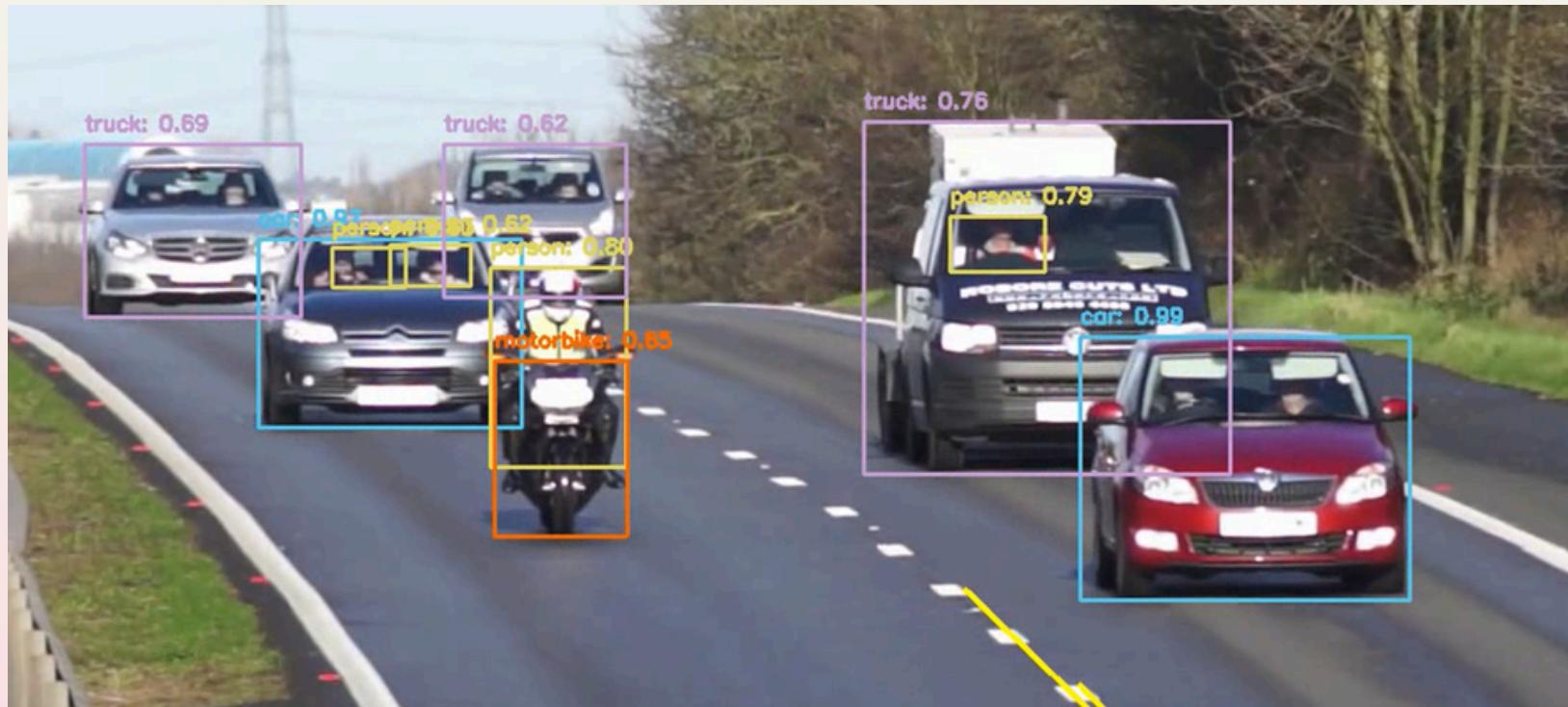
- *Lane ,Traffic Signal Detection.*
- *Vehicles, Pedestrian Detection.*
- *Annotated Output using YOLO model with COCO Dataset.*
- *Live object detection + Option to upload video file*
- *Uploading Project Live on a web address to make it accessible to all.*

OBJECTIVES COMPLETED

- Lane Detection
- Object Detection & Annotation
- Vehicle/Truck/Motorbike Detection
- Download annotated File

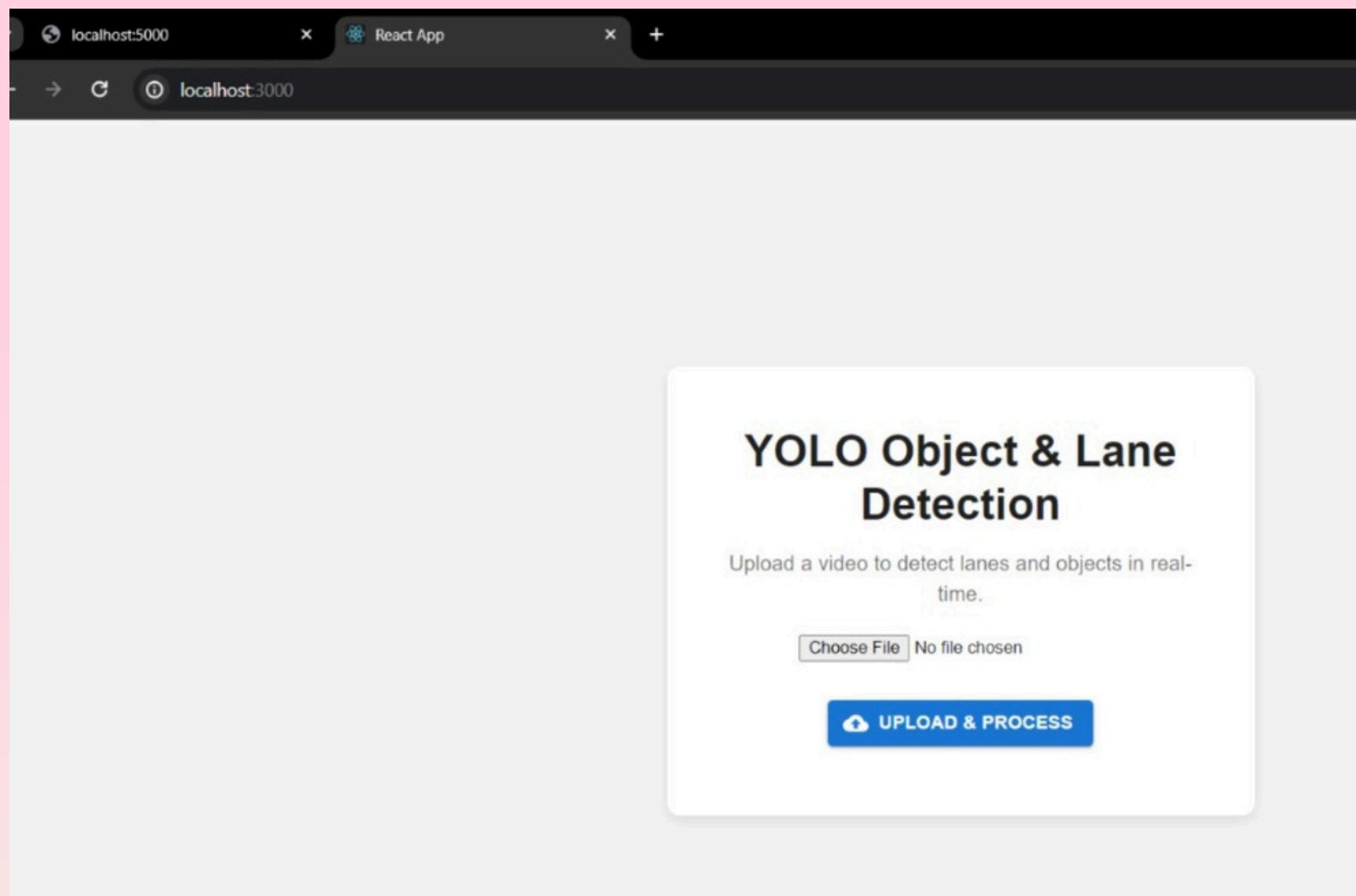
GOALS ACHIEVED

PROGRESS OF PROJECT

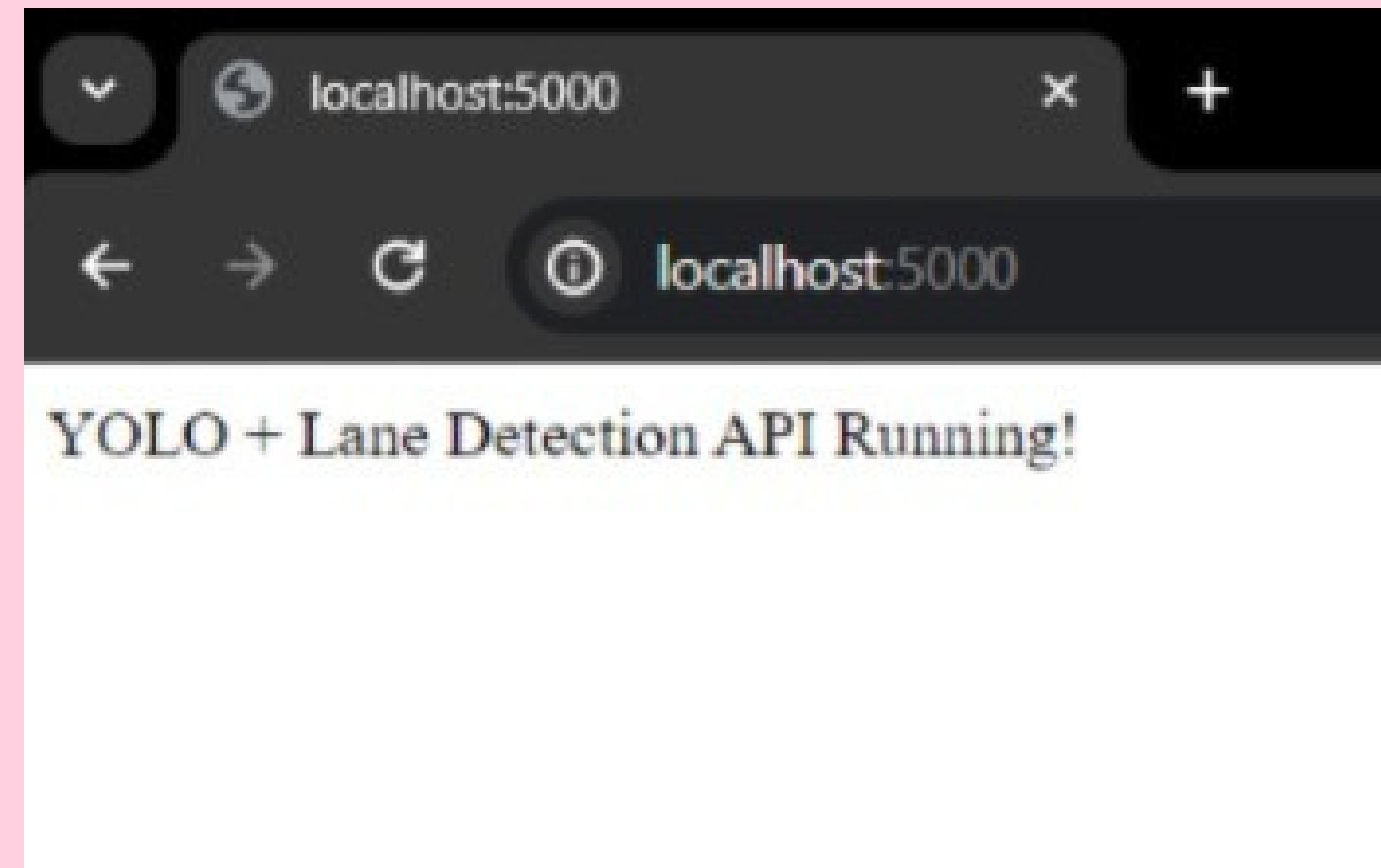


OUTPUT SCREEN

Frontend:



Backend:



FURTHER ENHANCEMENTS

- Live Object Detection
- Traffic Sign Recognition
- Deploy backend, frontend and make project live.

PAPER PUBLICATION INFORMATION

We are currently in the process of refining our research paper on Autonomous Vehicle Navigation, ensuring that it aligns with the required conference format and guidelines. Once finalized, it will be presented at the conference, following which it will undergo a comprehensive review process for potential publication.

THANK YOU