

Project Design Phase-I
Proposed Solution

Date	08 November 2023
Team ID	591691
Project Name	AI Enable Car Parking Using OpenCV
Maximum Marks	2 Marks

S.no	Parameter	Description
1.	Problem Statement	Traditional car parking systems are inefficient and time-consuming. Drivers often have to spend a lot of time searching for an empty parking space, leading to congestion in the parking lot. Additionally, traditional parking systems require manual intervention for ticketing and payment processing, which can lead to long queues and delays.
2.	Idea / Solution	The idea behind an AI-enabled car parking system using OpenCV is to leverage the power of computer vision to automate the parking process. By using cameras and image processing algorithms, the

		<p>system can detect the presence of cars in the parking lot and guide drivers to empty parking spaces. The system can also automate the ticketing and payment processing, making the process faster and more convenient for drivers.</p>
3.	Novelty / Uniqueness	<p>The use of computer vision technology for car parking systems is a novel approach that can significantly improve the efficiency and convenience of parking.</p> <p>By using OpenCV, the system can accurately detect and track cars, even in crowded parking lots. Additionally, the use of AI algorithms can optimize the parking process by analyzing parking patterns and occupancy rates</p>
4.	Social Impact	<p>An AI-enabled car parking system using OpenCV can have a significant social impact by reducing traffic congestion and improving the overall driving experience.</p> <p>By guiding drivers to empty parking spaces, the system can reduce the time spent searching for parking and minimize traffic congestion in the parking lot. Additionally, by automating the ticketing and payment process, the system can improve the convenience and efficiency of the parking process.</p>

5.	Business Model	<p>The business model for an AI-enabled car parking system can be based on a pay-per-use model, where drivers pay a fee based on the duration of the parking. The system can be integrated with a payment gateway to enable online payments, making the process faster and more convenient for drivers. Additionally, the system can generate revenue by collecting data on parking patterns and occupancy rates, which can be used by parking lot operators to optimize the parking process.</p>
6.	Scalability	<p>An AI-enabled car parking system using OpenCV can be easily scaled to accommodate large parking lots and multiple parking locations. By using a centralized database and cloud-based architecture, the system can easily handle large volumes of data and support multiple users. Additionally, the system can be customized based on the specific requirements of the parking lot, making it adaptable to different environments and use cases.</p>