# Cost effective Parking System Using Computer Vision

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## ABSTRACT

This paper presents an approach for detecting real-time parking slots which includes vision-based techniques. Traditional sensor-based systems are not cost effective as 'n' number of sensors are required for 'n' parking slots. Transmitting sensor data to central system is done by hardwiring or installing dedicated wireless system which is again costly. Our technique will overcome this problem by using camera instead of number of sensors which is expensive. For detection we are using a Convolutional Neural Networks (CNN) classifier which is custom trained. It is more robust and effective in changing light conditions and weather. The following system do not require high processing as detections are done on static images not on video stream. We have also demonstrated real-time parking scenario by constructing a small prototype which shows practical implementation of our system.

**Keywords :** Convolutional Neural Networks, You Only Look Once, Deep learning.

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