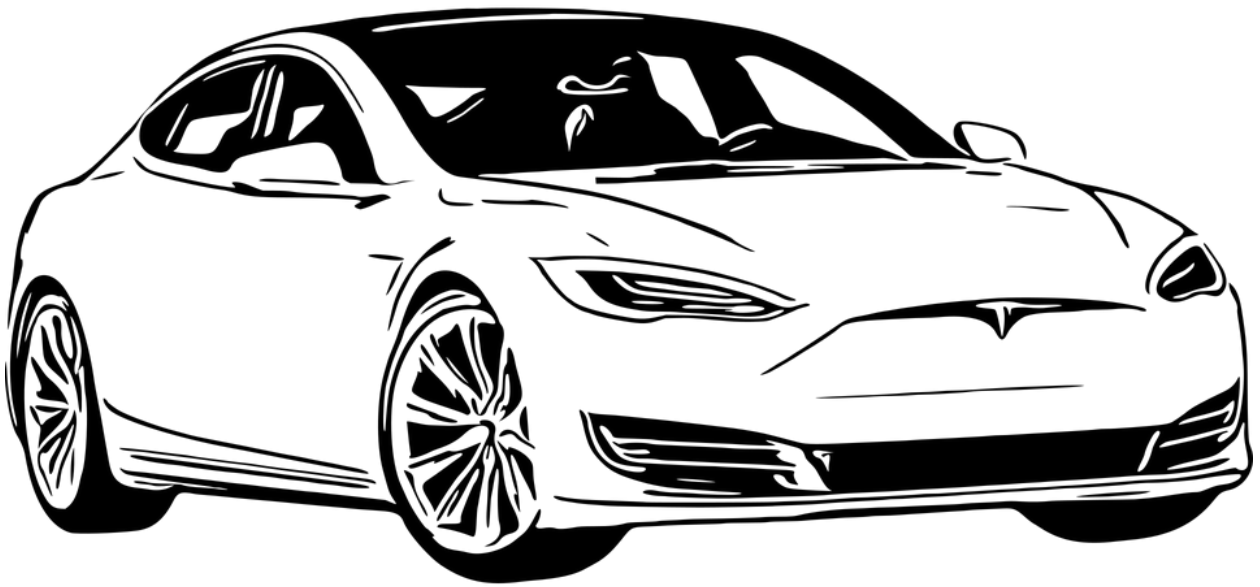


Autonomous Car

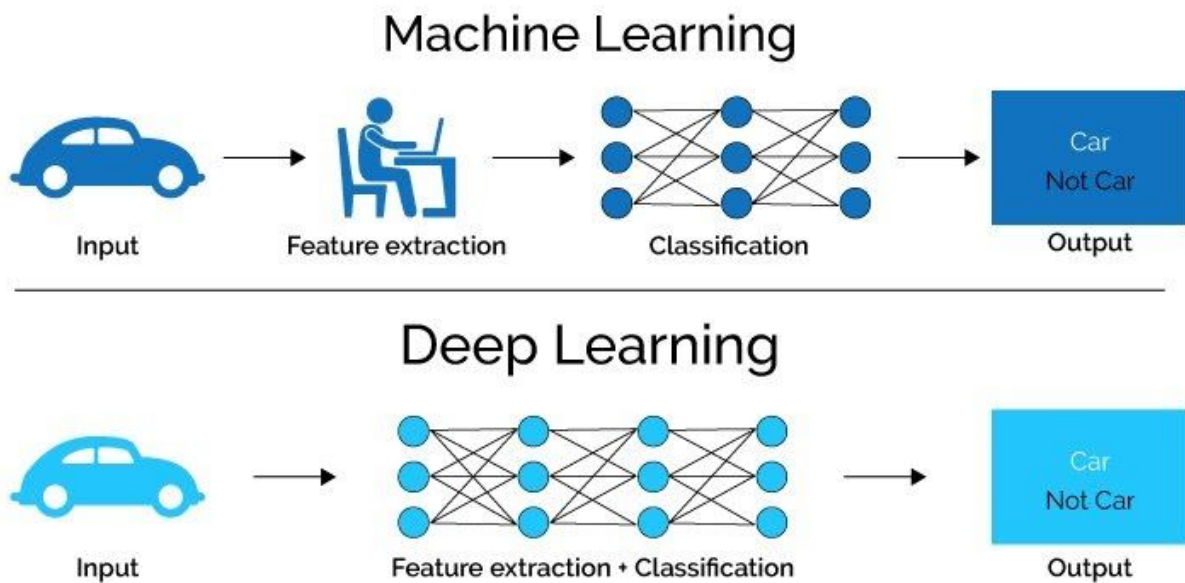
Using Computer Vision alone.



Project by Shreyas Atre & inspired by Tesla Inc.

Overview

In this Age of AI we have come a long way from developing mathematics to integrating it with code. Inspiring from nature to create Neuron-like-Perceptron. Hence the Idea of Autonomous Car using Computer Vision alone. Because that's how nature does it. That's how Human Beings do it. With vision and its interpretation.



This gives a clear idea why not to use ML here.

Goals

1. Lane Detection using CV
2. Control over speed and steering in action to various situations similar to Real World

What's so special?

Because It's been done by famous companies doesn't mean that it's not good enough for us to do. We would gain immense knowledge and experience doing this project.

There are so many possibilities of different situations a car could encounter.

For example, If the stop sign has a non-red background and also a person is about to cross the road, the car should be able to detect this.

Designing such a neural network would be challenging since so many objects to classify every time with limited computing power.

Requirements

Deep Neural Networks and Convolutional Neural Networks

(Using Keras , Tensorflow, Numpy, OpenCV,etc.)

Multiclass Classification

MNIST image Recognition

Classifying Road Symbols

Airsim

Links to Courses & Other resources

[Self-Driving Car Course](#) from Udemy

[Medium Article regarding self-driving car in Airsim](#)

[Microsoft's Autonomous Car Tutorial](#)

[Coursera Neural Network and Deep Learning Course](#)