Computer Vision for Self Driving Car

Venue: ADAX, Bangsar South

Requirement:

1. A decent enough laptop with modern browsers like Chrome and Firefox.
2. Google account for Google Colab, https://colab.research.google.com/
3. A good internet infrastructure.
4. Understand Python language.
5. Understand vector programming especially Numpy.

What we will learn:

Convolution process
Implement convolution 2D with gaussian kernel on image to do image blurring.

https://colab.research.google.com/drive/1AU8mQpCfkpiI7cM1LxVcIUyMSFG8tcth

Simple straight lane
How to use opencv to do simple straight lanes detection.

https://colab.research.google.com/drive/1XF9ZTpwJTcS_gedDZObVfy_ZkBKa9Cr5

Dynamic offroad lane
How to use Tensorflow image segmentation to do lane augmentation for offroad (no lanes available on the road).

https://colab.research.google.com/drive/1b1JJEgNLh_fZV1rynfdBea7VioCRA6uc

Sensor fusion
How to use point cloud library to understand lidar and radar data combined with computer vision.

https://colab.research.google.com/drive/1UX1FSDi85LoPcgh6GMSwja7Dy1N5JPX1