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/1AU8mQpCfkpil7cM1LxVcIUyMSFG8tcth>

**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>