**Computer Vision**

**Objective:**

To introduce fundamental concepts and techniques of computer vision and machine learning for trainees. In addition, practical session on building various PoC would be delivered for more solid knowledge.

**Contents:**

The course includes 30% theory and 70% practice, covering necessary knowledge for building up a Computer Vision PoC.

Supplementary materials would be supported for online self-study course.

**PC Requirement:**

Ubuntu (not a VMWare OS), Docker

**Level:**

Beginner - Intermediate

**Prerequisite:**

Python Programming Skill

Basic Linear Algebra

20-25 hours online self-study and PoC work

**Location:**

Training room, Lab 6

**Discussion & sharing sessions will be organized:**

**#Session 1:**

**Date/Time**: 9h30 – 11h30 Sep 19th

**Content:**

* Introduction to the course and its scope
* Computer Vision introduction, application and self-study materials
* PoC assignments for each group (3-5 trainees)

**#Session 2:**

**Date/Time**: 9h30 – 11h30 Sep 26th

**Content:**

* Image processing techniques and their applications
* Pratice: How to pre-process image dataset

**#Session 3:**

**Date/Time**: 9h30 – 11h30 Oct 3rd

**Content:**

* Building your first model (Multi Layer Perceptrons - MLP)
* Building specialized model for CV problem (Convolutional Neural Network - CNN)
* Pratice: Build MLP and CNN models with Keras

**#Session 4:**

**Date/Time**: 9h30 – 11h30 Oct 10th

**Content:**

* Train your model
* Improve model with Machine Learning techniques
* Improve model with Computer Vision techniques
* Pratice: Train and improve PoC model

**#Session 5:**

**Date/Time**: 9h30 – 11h30 Sep 17th

**Content:**

PoC presentation

**Speaker: Mr. Can Nguyen – TIC Computer Vision Lead**

**Ph.D. Tuong Phan – TIC Computer Vision Consultant**