Object Detection Tensorflow

- Source: **Nicholas Renotte (**<u>**YouTube**</u>** / **<u>**Github**</u>**) Tensorflow Model Zoo(**<u>Github</u>**)**

- **Python 版本要 3.10.x 之前， Python 3.11 會有問題**

1. Clone the repository

```
git clone https://github.com/nicknochnack/TFODCourse
```

2. Create a python virtual environment

```
python -m venv tfod
.\tfod\Scripts\activate
```

3. Dependencies

```
python -m pip install --upgrade pip
pip install ipykernel
pip install notebook
pip install opencv-python
pip install pyqt5
pip install lxml
pip install wget
pip install tensorflow
pip install matplotlib
pip install tensorflow-addons
pip install pytz
pip install pycocotools
pip install gin-config
```

4. Add virtual environment to Kernel (Jupyter Notebook)

```
python -m ipykernel install --user --name=tfod

# Open the Jupyter Notebook
jupyter notebook
```

5. Labelimg (PyQt5 Error Solution)

```
# 當遇到以下錯誤時:
# qt.qpa.plugin: Could not find the Qt platform plugin "windows" in ""
# 在系統環境變數添加這個變數
QT_QPA_PLATFORM_PLUGIN_PATH = "{你的 venv}\Lib\site-packages\PyQt5\Qt5\plugins\platforms"
```

6. Verify Installation

```
# protobuf 版本太高時需要 downgrade
pip uninstall protobuf -y
pip install protobuf==3.20.3
```