

Mobile Intelligent Network Technology (MINT) Lab



AI無線通訊系統實驗

Module 2 CSI Indoor Sensing based on Deep learning Technique

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教材編寫: 蕭安紘、沈立翔 博士

111學年上

軟體安裝

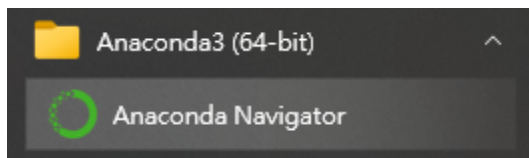
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- 軟體名稱: Anaconda3
- 版本號: 64-bit
- 軟體載點:
 - 官方網站: <https://www.anaconda.com/products/distribution>
 - Windows: https://repo.anaconda.com/archive/Anaconda3-2022.05-Windows-x86_64.exe
 - Mac: https://repo.anaconda.com/archive/Anaconda3-2022.05-MacOSX-x86_64.pkg
 - Mac(M1): <https://repo.anaconda.com/archive/Anaconda3-2022.05-MacOSX-arm64.pkg>
 - Linux: https://repo.anaconda.com/archive/Anaconda3-2022.05-Linux-x86_64.sh

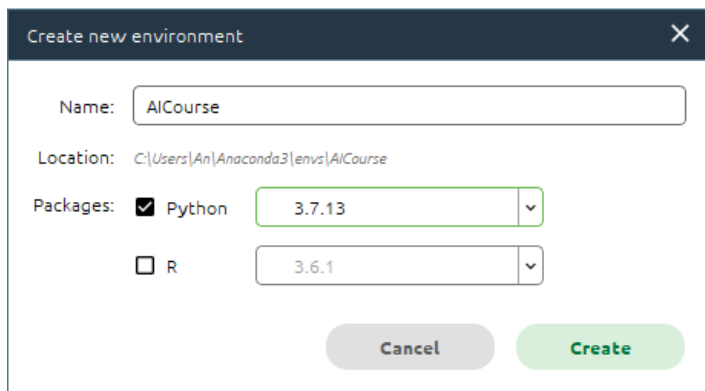
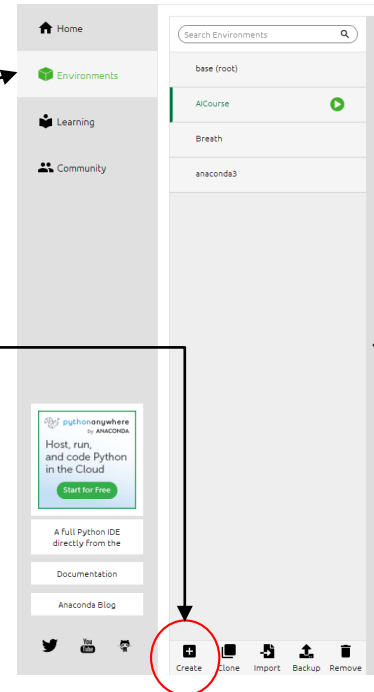


環境安裝 (以 windows 為例)

- 進到windows的開始選單中，點選Anaconda Navigator

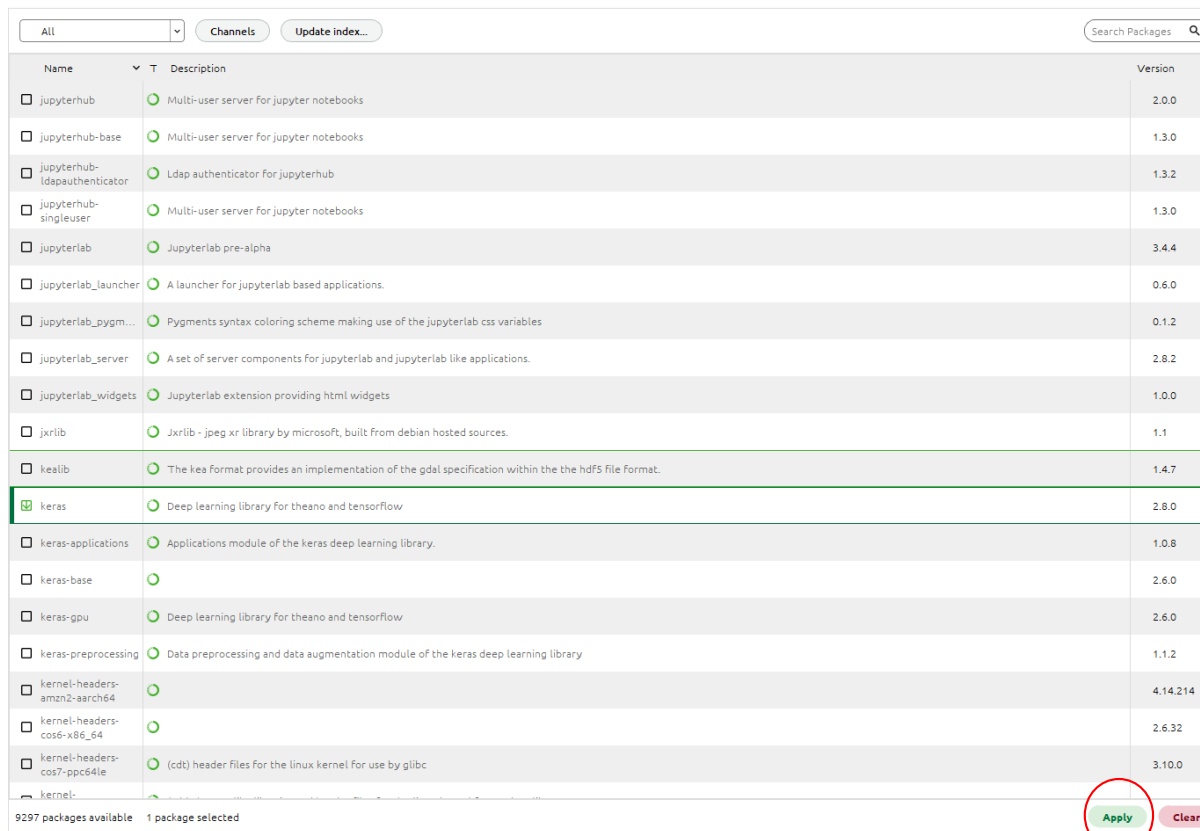


- 開啟之後，點選旁邊的Environment
- 並點選Create來創建環境
- 若在自己的電腦上使用，請打上自己喜歡的名稱
- 若在實驗室的電腦上使用，請打上”學號_AICourse”作為名稱
- 勾選Python，並將版本設為3.7 (若沒有3.7，3.6也可以)



套件安裝

• 安裝套件方法

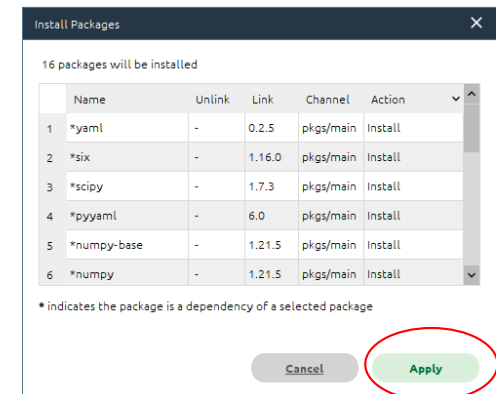


Name	Description	Version
<input type="checkbox"/> jupyterhub	Multi-user server for jupyter notebooks	2.0.0
<input type="checkbox"/> jupyterhub-base	Multi-user server for jupyter notebooks	1.3.0
<input type="checkbox"/> jupyterhub-ldapauthenticator	Ldap authenticator for jupyterhub	1.3.2
<input type="checkbox"/> jupyterhub-singleuser	Multi-user server for jupyter notebooks	1.3.0
<input type="checkbox"/> jupyterlab	Jupyterlab pre-alpha	3.4.4
<input type="checkbox"/> jupyterlab_launcher	A launcher for jupyterlab based applications.	0.6.0
<input type="checkbox"/> jupyterlab_pyg...	Pygments syntax coloring scheme making use of the jupyterlab css variables	0.1.2
<input type="checkbox"/> jupyterlab_server	A set of server components for jupyterlab and jupyterlab like applications.	2.8.2
<input type="checkbox"/> jupyterlab_widgets	Jupyterlab extension providing html widgets	1.0.0
<input type="checkbox"/> jxrlib	Jxrlib - jpeg xr library by microsoft, built from debian hosted sources.	1.1
<input type="checkbox"/> kealib	The kea format provides an implementation of the gdal specification within the the hdf5 file format.	1.4.7
<input checked="" type="checkbox"/> keras	Deep learning library for theano and tensorflow	2.8.0
<input type="checkbox"/> keras-applications	Applications module of the keras deep learning library.	1.0.8
<input type="checkbox"/> keras-base		2.6.0
<input type="checkbox"/> keras-gpu	Deep learning library for theano and tensorflow	2.6.0
<input type="checkbox"/> keras-preprocessing	Data preprocessing and data augmentation module of the keras deep learning library	1.1.2
<input type="checkbox"/> kernel-headers-amzn2-aarch64		4.14.214
<input type="checkbox"/> kernel-headers-cos6-x86_64		2.6.32
<input type="checkbox"/> kernel-headers-cos7-ppc64le	(cdt) header files for the linux kernel for use by glibc	3.10.0
<input type="checkbox"/> kernel-		

9297 packages available 1 package selected

Apply Clear

選取需安裝之
套件後會出現
向下箭頭，再
去右下角按
Apply，並會出
現確認畫面，
再按下Apply，
便安裝好了



	Name	Unlink	Link	Channel	Action
1	*yaml	-	0.2.5	pkgs/main	Install
2	*six	-	1.16.0	pkgs/main	Install
3	*scipy	-	1.7.3	pkgs/main	Install
4	*pyyaml	-	6.0	pkgs/main	Install
5	*numpy-base	-	1.21.5	pkgs/main	Install
6	*numpy	-	1.21.5	pkgs/main	Install

* indicates the package is a dependency of a selected package

Cancel Apply



套件安裝

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- 課程中會使用的套件，可以事先安裝好，在助教提供的程式裡開頭處大家可以看到

```
from keras.datasets import mnist
from keras.utils import np_utils
import numpy as np
import tensorflow as tf
from tensorflow import keras
import matplotlib.pyplot as plt
```

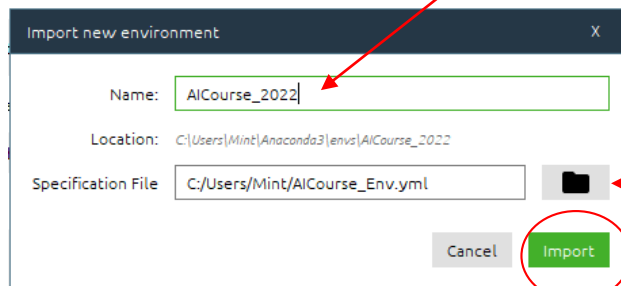
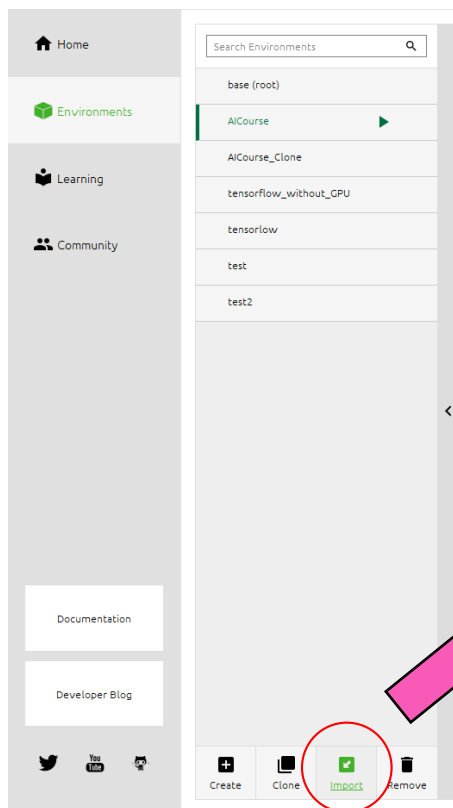
- 此為此次Lab中程式所需要匯入的套件
- 此外，以下為機器學習常用到套件，也可以事先下載好，如
 - keras
 - numpy
 - tensorflow
 - matplotlib
 - sklearn



輸入環境

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- 與前述方法自行下載套件的方式不同
- 我們也可以利用yaml[1]格式的檔案(.yaml)來輸入已建設好的環境(包含已載好的套件)
- 具體操作方法如下

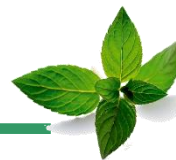


此處可以改名
命名原則請遵循p.3所提到的

此處選取要輸入的
yaml檔案

設定完畢後，便可以按下import
來產生設定好的環境

[1] [Yet Another Markup Language \(YAML\) 1.0](#)



編譯器

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- 回到Anaconda的主頁，下載Spyder(下圖紅框處)來進行程式的編寫
- 下載完後，下方按鈕會變為Launch，便可以開啟編譯器來進行實驗

