

AI DL 讀書會 計畫說明

Richard
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目標及成果

- 建立及使用 Anaconda 、 Python 環境
- 理解電腦視覺 (CV) 與 CNNs 之設計原理
 - Yolo V3 (實作 辦公室環境物件分類)
 - MobileNet V2 (人臉辨識 face recognition)
- 解讀程式碼，學習 python 程式
- 自建 Tensorflow + Keras 模型
- 各自找一套 github 程式，落地執行
- [組隊] 參加 Kaggle 競賽

Anaconda

可快速建立多個環境，拿別人的程式來研究時
要配合他的版本及套件，研究完可容易清除建立的環境

Anaconda Navigator
File Help

ANACONDA NAVIGATOR

安裝套件也很容易

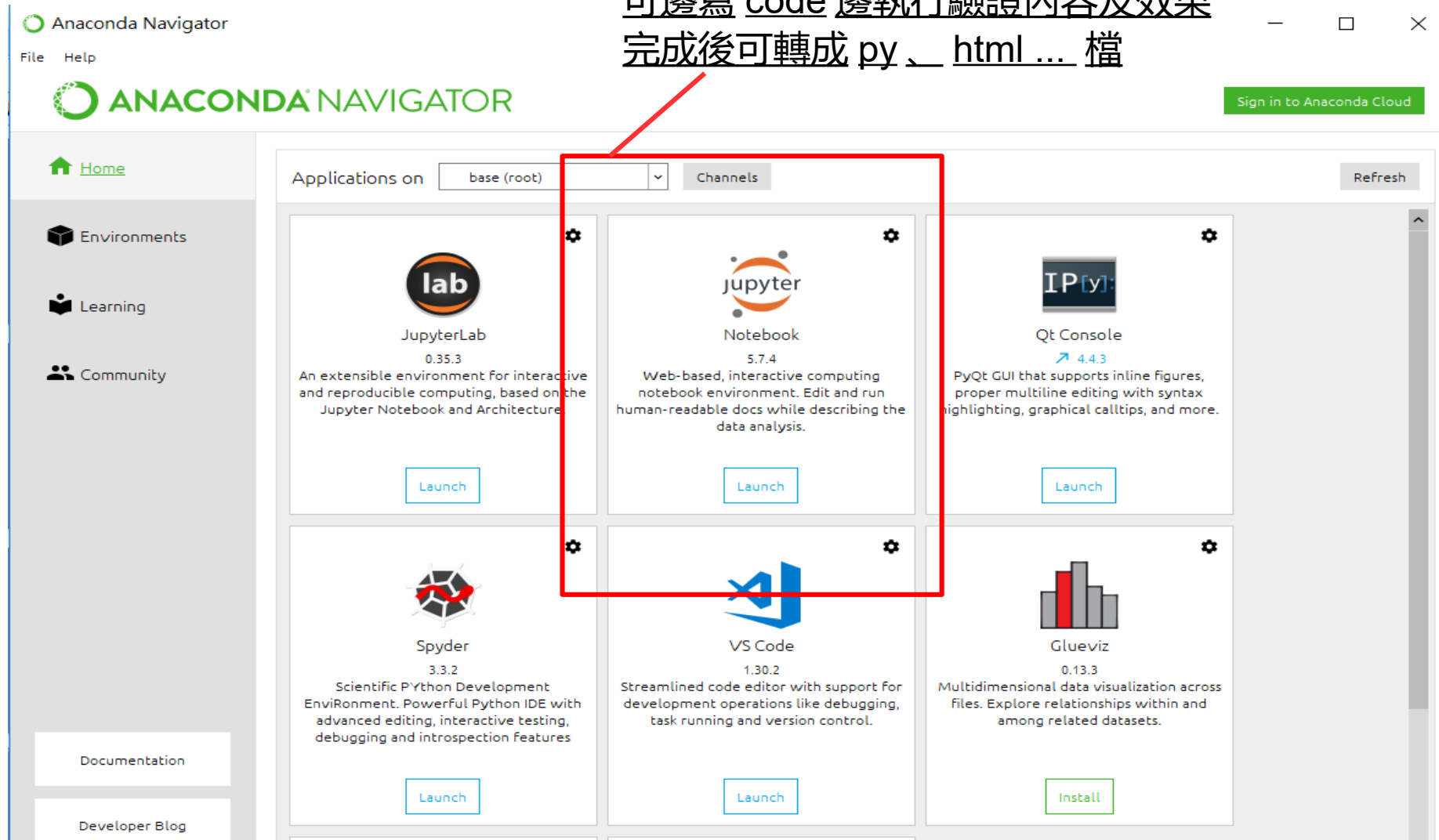
The screenshot displays the Anaconda Navigator application interface. On the left, a sidebar contains navigation links: Home, Environments (highlighted in green), Learning, and Community. The main area is divided into two panels. The left panel, titled 'Search Environments', lists several environments: 'base (root)', 'basic-tf', 'basic_tf_gpu', 'face_recognition', 'py36-tf15-k213-old', and 'tf-gpu-pose'. A red box highlights this list, with a red arrow pointing from the text above to it. The right panel, titled 'Installed', shows a list of installed packages with their names, versions, and descriptions. The packages listed are: _ipyw_jlab_nb_ex..., alabaster, anaconda, anaconda-client, anaconda-project, asn1crypto, astroid, and astropy.

Name	Description
✓ _ipyw_jlab_nb_ex...	○ A configuration metapackage for enabling anaconda-bundled jupyter extensions
✓ alabaster	○ Configurable, python 2+3 compatible sphinx theme.
✓ anaconda	○ Simplifies package management and deployment of anaconda
✓ anaconda-client	○ Anaconda.org command line client library
✓ anaconda-project	○ Tool for encapsulating, running, and reproducing data science projects
✓ asn1crypto	○ Python asn.1 library with a focus on performance and a pythonic api
✓ astroid	○ A abstract syntax tree for python with inference support.
✓ astropy	○ Community-developed python library for astronomy

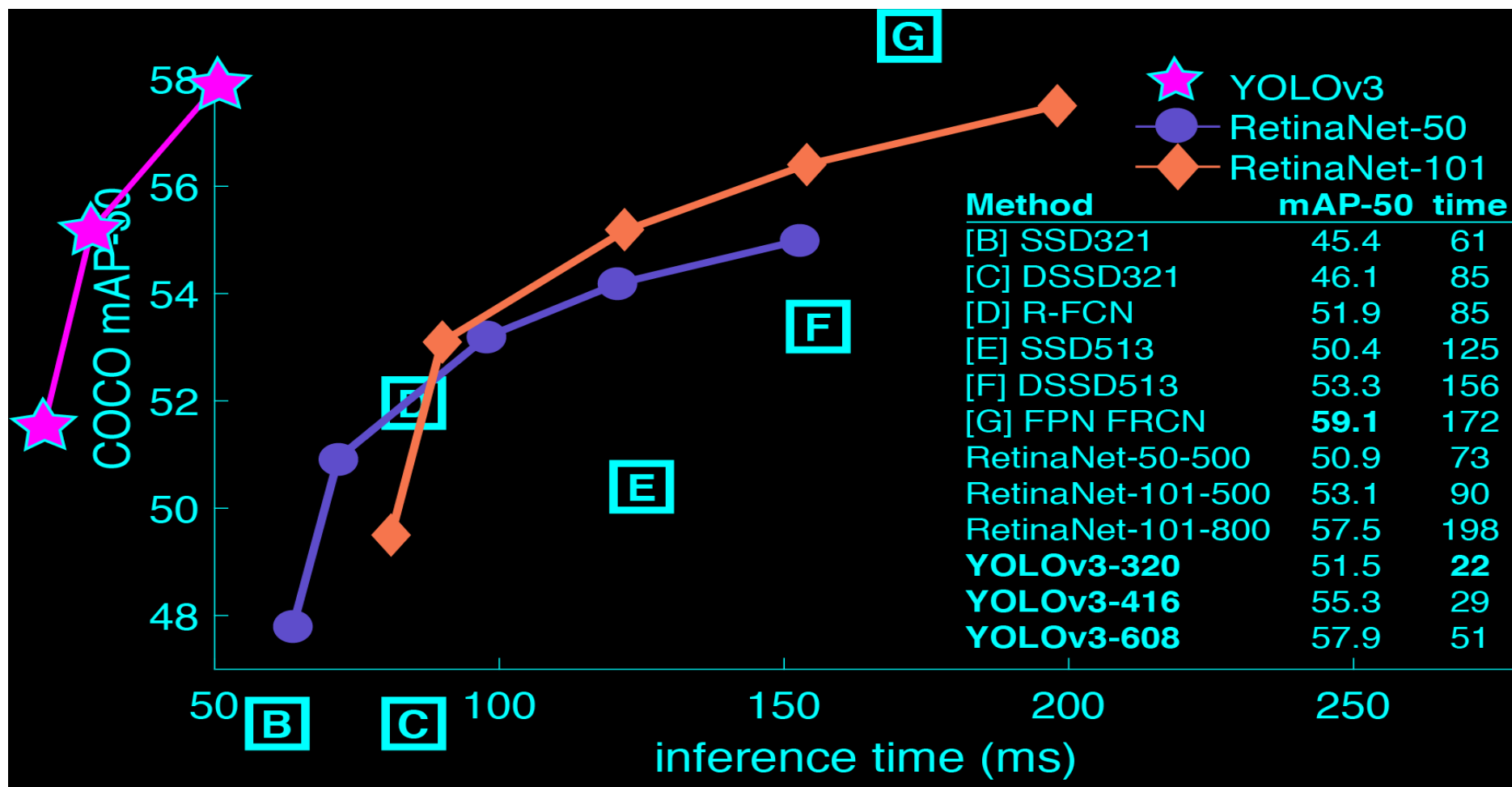
Anaconda

現在報名送手把手安裝教學 !!!

可邊寫 code 邊執行驗證內容及效果
完成後可轉成 py 、 html ... 檔



YOLO V3



除了本身的設計非常厲害之外，還集成了各種效果最好最新的技術於一身

MobileNet V2

motivation

很多轻量级的CNN模型已经在便携移动设备应用（如手机）：MobileNet、ShuffleNet等，但是效果差强人意。本文是Google团队在MobileNet基础上提出的MobileNetV2，实现分类/目标检测/语义分割多目标任务：以MobileNetV2为基础设计目标检测模型SSDLite（相比SSD,YOLOv2参数降低一个数量级，mAP无显著变化），语义分割模型Mobile DeepLabv3。

MobileNetV2结构基于inverted residual（本质是一个残差网络设计，传统Residual block是

引言

深度残差网络（Deep residual network, ResNet）的提出是CNN图像史上的一件里程碑事件，让我们先看一下ResNet在ILSVRC和COCO 2015上的战绩：

ResNets @ ILSVRC & COCO 2015 Competitions

- **1st places in all five main tracks**
 - ImageNet Classification: “Ultra-deep” **152-layer** nets
 - ImageNet Detection: **16%** better than 2nd
 - ImageNet Localization: **27%** better than 2nd
 - COCO Detection: **11%** better than 2nd
 - COCO Segmentation: **12%** better than 2nd

图1 ResNet在ILSVRC和COCO 2015上的战绩

ResNet取得了5项第一，并又一次刷新了CNN模型在ImageNet上的历史：

附贈

- 機器學習 百日馬拉松
業界專家陪你升級打怪 講義 (更新至 D48 集)

The screenshot shows the GitHub interface for the repository 'richardchiujang / ML100-Days'. At the top, there are buttons for 'Watch' (0), 'Star' (0), and 'Fork' (0). Below this is a navigation bar with links for 'Code', 'Issues' (0), 'Pull requests' (0), 'Projects' (0), 'Wiki', 'Insights', and 'Settings'. The main content area shows the file structure under the 'materials' directory. A commit by 'richardchiujang' is highlighted, showing a list of files added to the 'course materials' directory, all committed 22 days ago.

File Name	Directory	Commit Time
..		
D001-010_attachment.txt	course materials	22 days ago
D001_資料介紹與評估指標.pdf	course materials	22 days ago
D002_EDA-1讀取資料 EDA Data summary.pdf	course materials	22 days ago
D003_3-1如何新建一個 dataframe 3-2 如何讀取其他資料.pdf	course materials	22 days ago
D004_EDA 欄位的資料類型介紹及處理.pdf	course materials	22 days ago

相關主題

- Python
 - Pandas
 - Matplotlib
 - Sklearn
- Open CV
- PIP , conda install
- Github , git
- Kaggle
- Tensorflow , Keras
- Imagenet , coco