本次期末將有一半分數由專題作評分，專題題目為**人與物件偵測**，而依照學號不同，將會需要偵測不同的物件。同學們將根據你的學號使用相對應的一段影片(參考 “Target\_Object.xlsx”)，偵測該影片中每幀的「人」與「物件」的數量，並將**偵測結果**、**人數**、**物件數以及學號**印出在影片上，並將影片匯出，如我們提供的範例中的影片(in “sample\_output\_videos”)所示，最後請繳交你的**影片、程式以及報告**。**不限定方法**，但推薦大家使用預訓練(pre-trained)好的模型，範例影片所使用的方法是根據<https://github.com/qqwweee/keras-yolo3>進行改寫，本範例是將yolov3模型轉換成keras的架構後再預測，沒有調整任何參數，後續再加上數物件與數人數的程式，最後匯出成一段影片，如對此有更多疑問可以寄信給助教詢問。請同學將範例影片作為baseline，若偵測效果比範例影片好，將會有加分，繳交時可以附上文字檔案，說明並比較你的偵測結果如何比範例影片好。舉例說明 : 範例影片person\_bike.mp4中的一開始，明顯可以看到有一個frame後面的1個人沒被偵測到，若你的方法可以偵測到範例影片中偵測不到的人，就可以舉此例說明你的方法比baseline好。

同學們最後請繳交(若檔案太大，可使用雲端硬碟並提供連結)：

1. 你的**偵測結果影片**(不限影片格式)，影片中應印中**人數**、**物品數以及學號**(necessary)
2. 你使用的**偵測方法的程式碼**，並用**報告(pdf)**說明你的方法或做出的修改(necessary)
3. 如果有，請在報告中附上你的偵測結果是否有比baseline好，我們會根據你的結果進行加分(optional)

There will be no final exam this semester, instead a final project will take its place. The topic of this semester’s final project will be **Human and Object detection**. Based on your student ID, you will be assigned different sets of objects. (refer to Target\_Object.xlsx for your object set assignment). For each frame of the video you must display your detection result, **(number of detection and type), and your student ID** in real time. (refer to “sample\_ output\_videos”). You will need to turn in a **detection result video, source code and a report**. There is no limit on the methodology of this assignment, however it is recommended that you use a pre-trained model. The method used in the sample video is based off of <https://github.com/qqwweee/keras-yolo3>, where a yolov3 model is transformed into a keras structure before performing the detection, followed by a program to show the number of object and human detected onto the detection video. The sample video serves as a baseline, better detection results will be given extra credits. For example: at the start of the sample video “person\_bike.mp4”, it shows that 1 person is not detected, hence if you are able to detect more people than the sample video, it indicates that your detector performed better than the baseline. If there are any questions, feel free to contact the TAs.

You must turn in the following:

1. Your detection result video, the video must show the human and object detection count and your student ID.
2. A PDF report, describing your detection method and source code.
3. (Optional) If your detector performed better than the baseline, please include how it performed better in your PDF report.

Note: if your file is too big, you can give us a link to your cloud storage (Google Drive.. etc).