Configuration Manual

MSc Research Project
MSc in Science Cloud Computing

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National College of Ireland

MSc Project Submission Sheet

School of Computing

Student Name:	Alvaro Ricardo Corral Paramo ……………………………………………
Student ID:	19190565……………………………………………………………..……
Programme:	MSc in Science Cloud Computing **Year:** 2021……………………..
Module:	MSc Research Project…………………………………………..………
Lecturer:	16th August of 2021 …………………………………………..………
Submission Due Date:	……………………………………………………………………..………
Project Title:	A drug identification model developed using instance segmentation
Word Count:	………323…………………… **Page Count:** ……………9……………………..….………

I hereby certify that the information contained in this (my submission) is information pertaining to research I conducted for this project. All information other than my own contribution will be fully referenced and listed in the relevant bibliography section at the rear of the project.

ALL internet material must be referenced in the bibliography section. Students are required to use the Referencing Standard specified in the report template. To use other author's written or electronic work is illegal (plagiarism) and may result in disciplinary action.

Signature: ……………………………   ………………………………………………

Date: 16th August of 2021 …………………………………………………………

PLEASE READ THE FOLLOWING INSTRUCTIONS AND CHECKLIST

Attach a completed copy of this sheet to each project (including multiple copies)	□
Attach a Moodle submission receipt of the online project submission, to each project (including multiple copies).	□
You must ensure that you retain a HARD COPY of the project, both for your own reference and in case a project is lost or mislaid. It is not sufficient to keep a copy on computer.	□

Assignments that are submitted to the Programme Coordinator Office must be placed into the assignment box located outside the office.

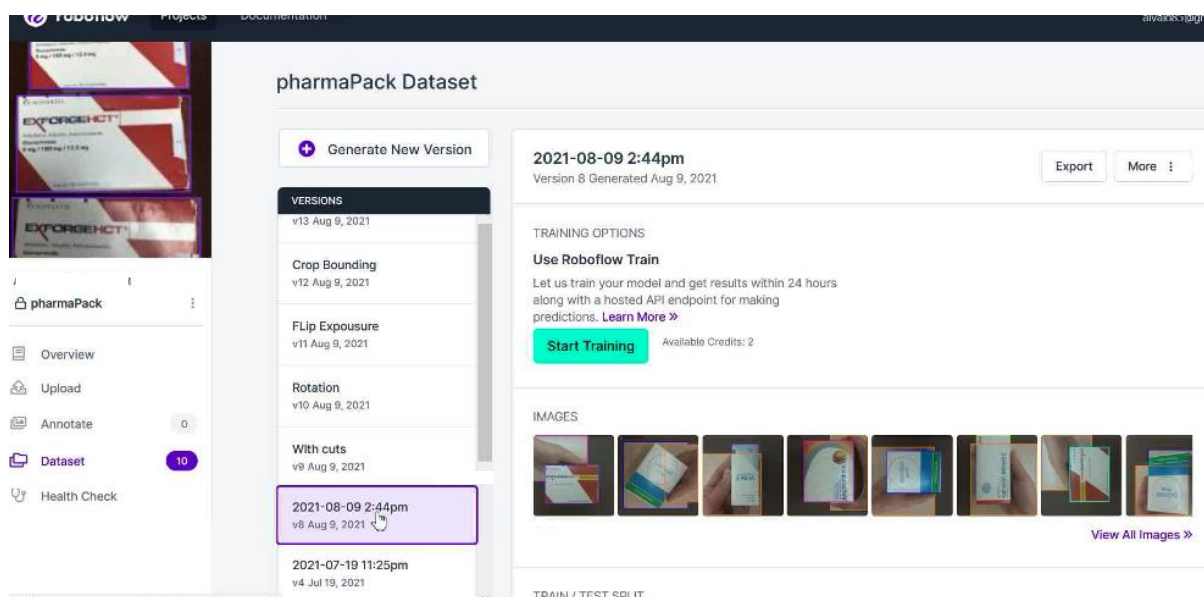| **Office Use Only**	
Signature:	
Date:	
Penalty Applied (if applicable):	

Configuration Manual
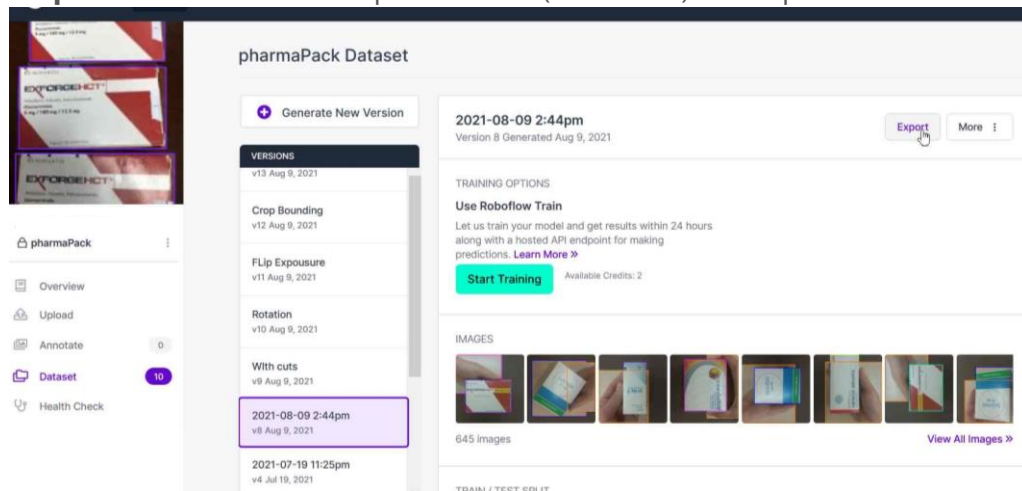
Alvaro Ricardo Corral Paramo
Student ID: 19190565

1 Dataset

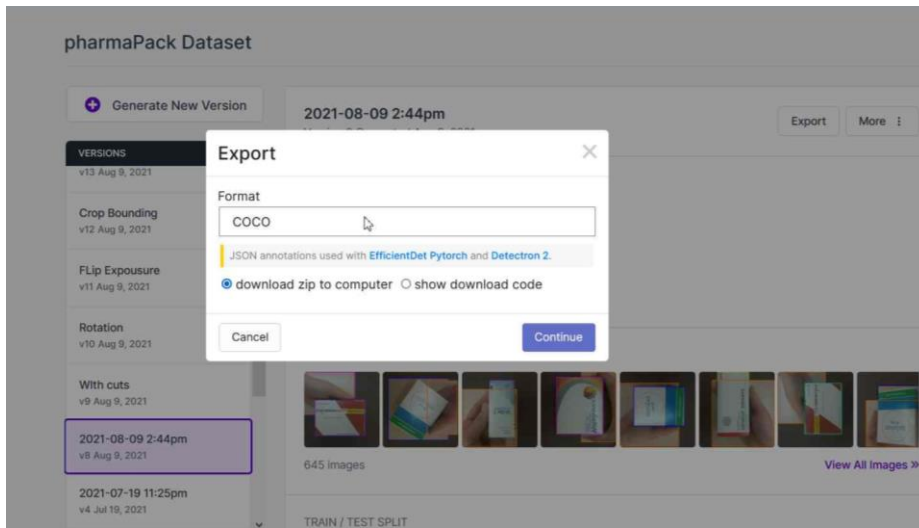Your first section. Change the header and label to something appropriate.

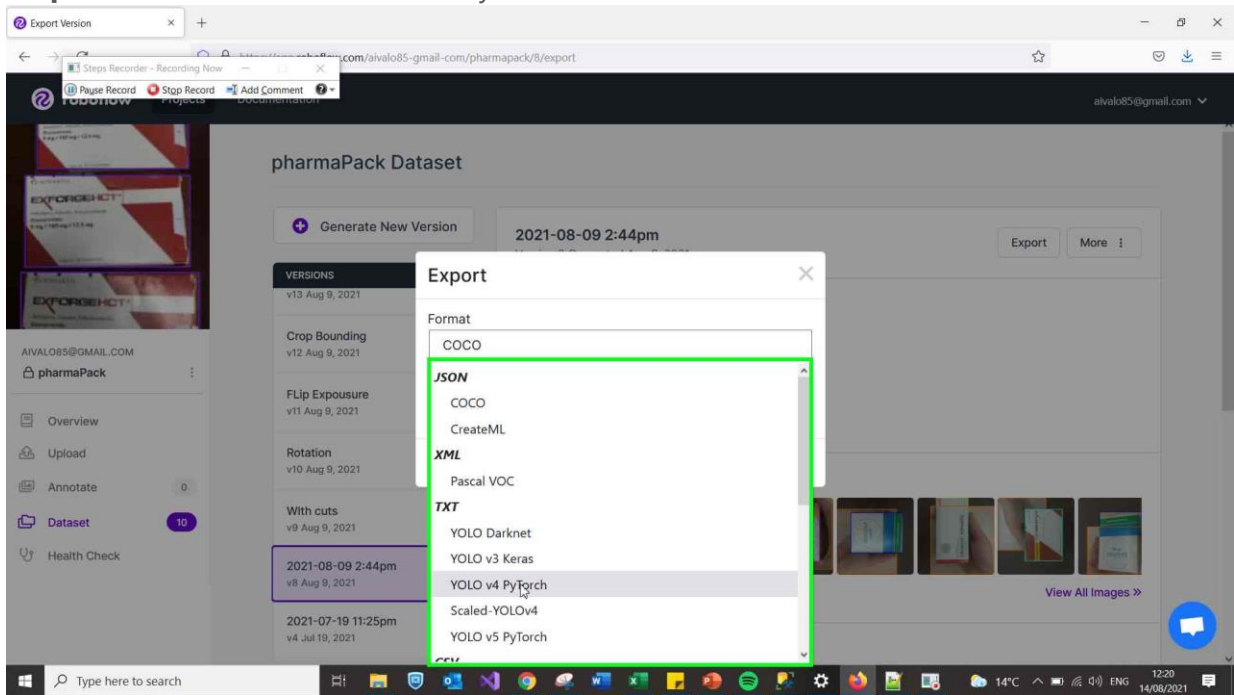**Step 1:** User left click in "pharmaPack - v8 2021-08-09 2:44pm "

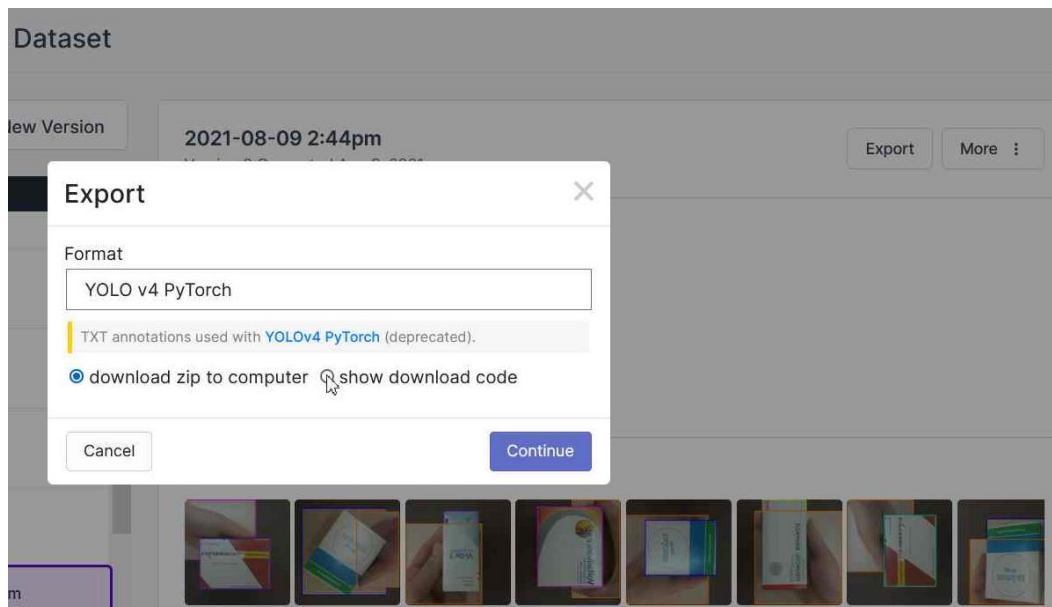**Step 2:** User left click on "Export Version (document)" in "Export Version "

Step 3: User left click on "Format (list item)"
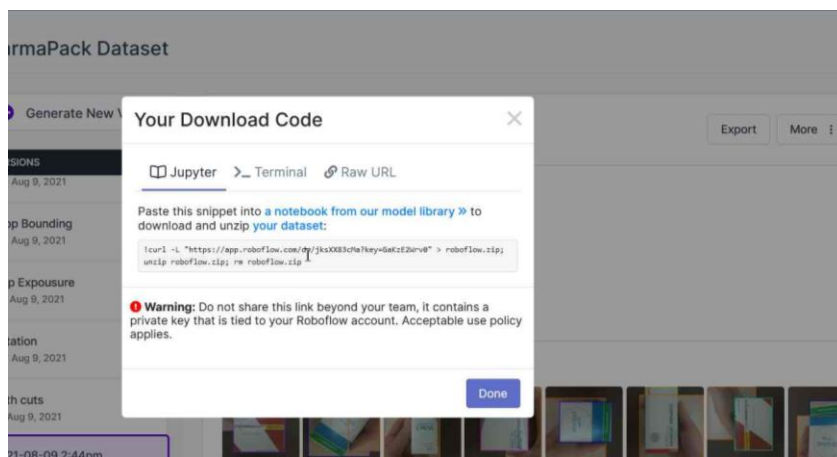

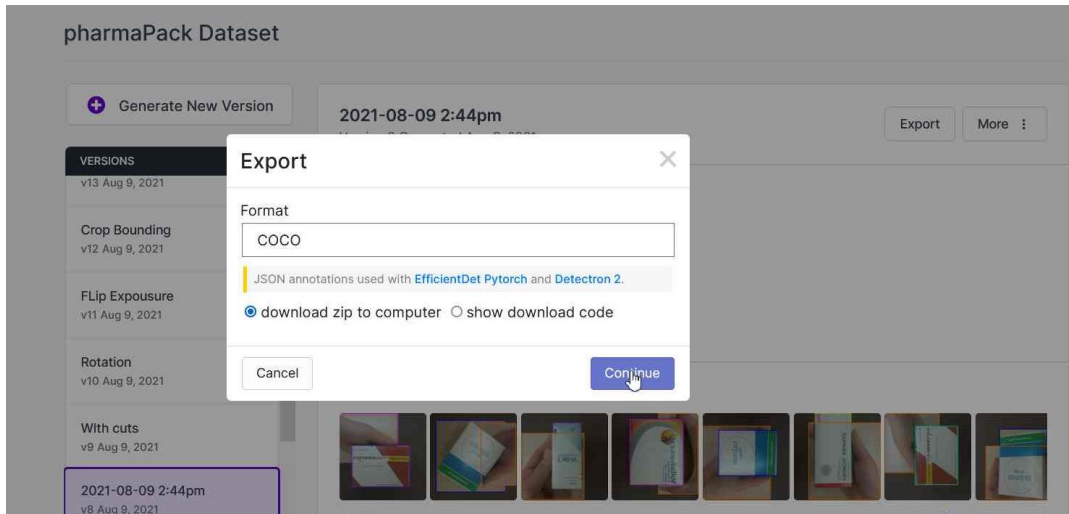**Step 4:** User left click on "YOLO v4 PyTorch"

Step 5: User left click on "show download code (radio button)" in "Export Version
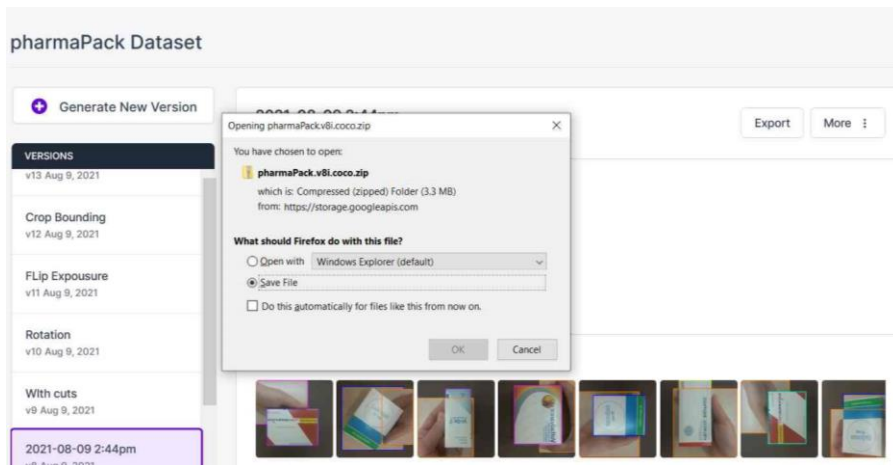

Step 6: User left click in "Export Version"

Step 7: User left click on "Steps Recorder - 1 running window (button)"
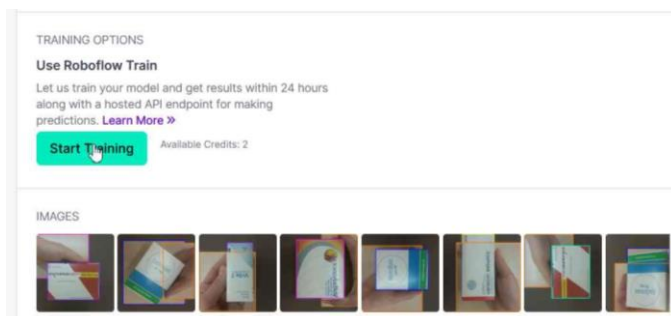

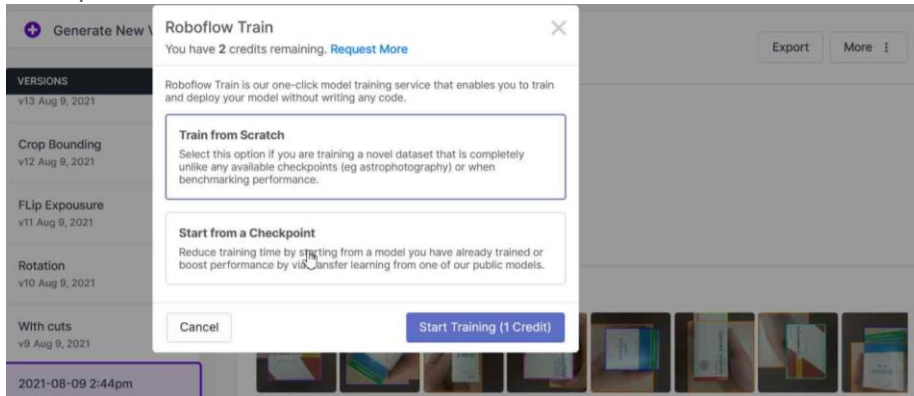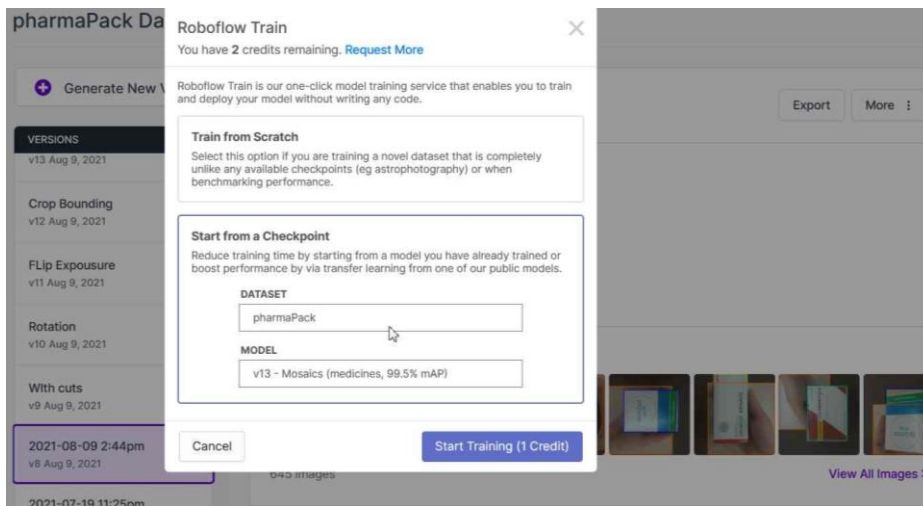**Step 8:** It is possible to download the dataset.

Train Dataset
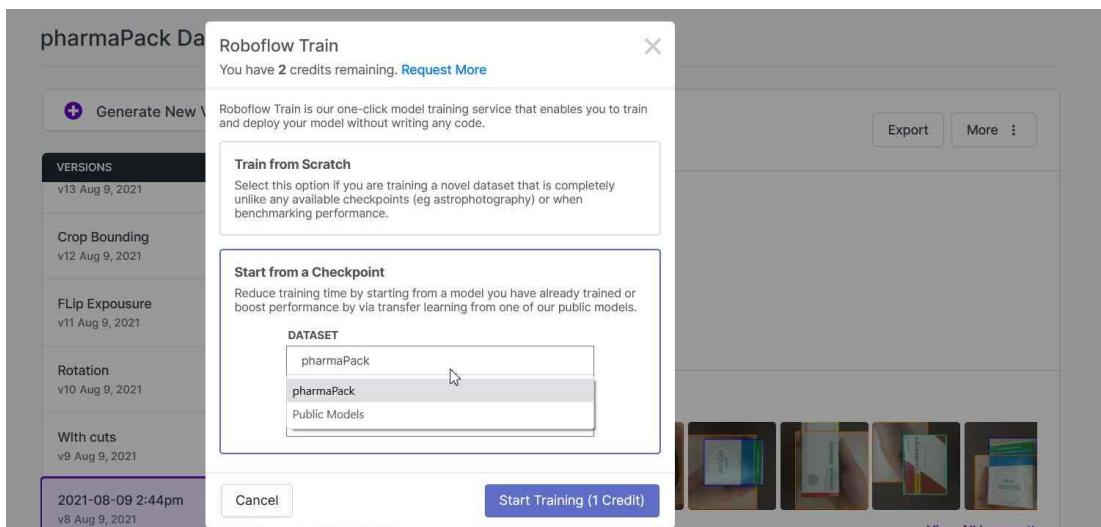**Step 1:** User left click on "Start Training (link)" in "Export Version

Step 2: User left click on "Reduce training time by starting from a model you have already trained or boost performance by via transfer learning from one of our public models. (edit)" in "Export Version — Mozilla Firefox"

Step 3: User left click on "DATASET (combo box)" in "Export Version
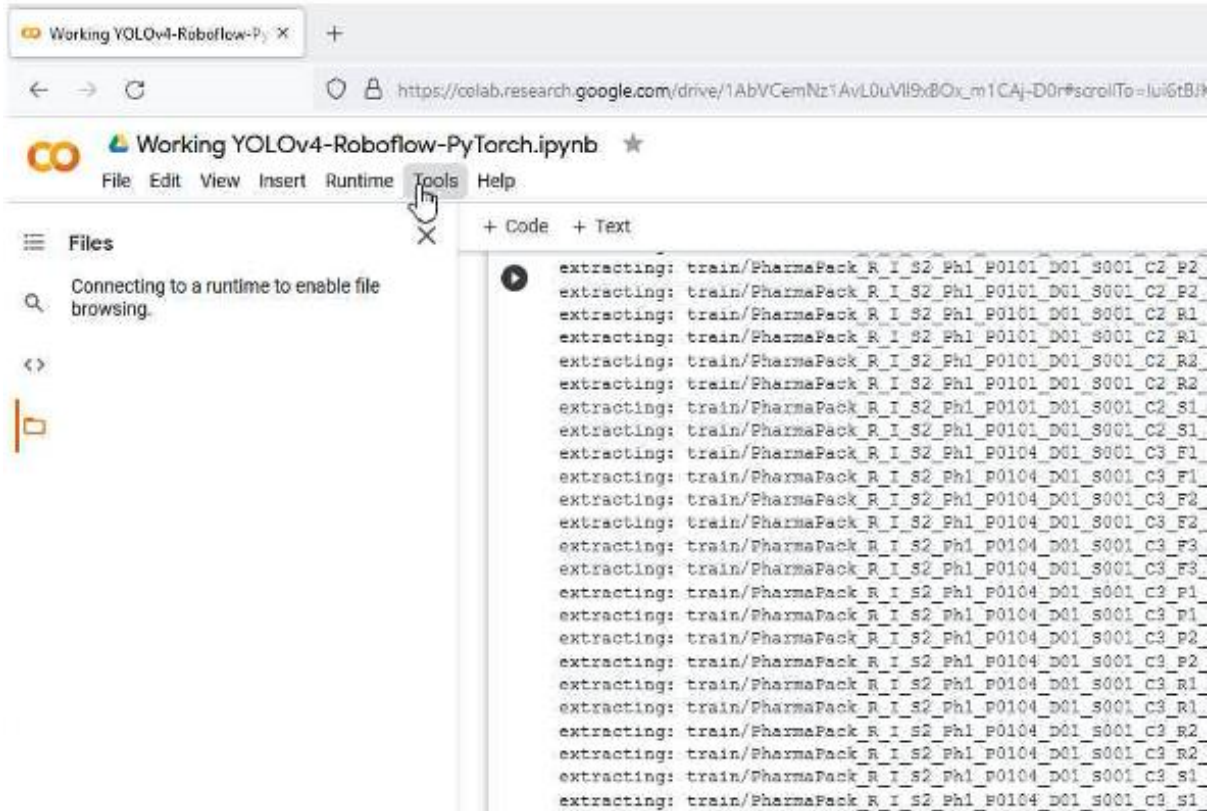

Step 4: User left click on "DATASET (combo box)" in "Export Version
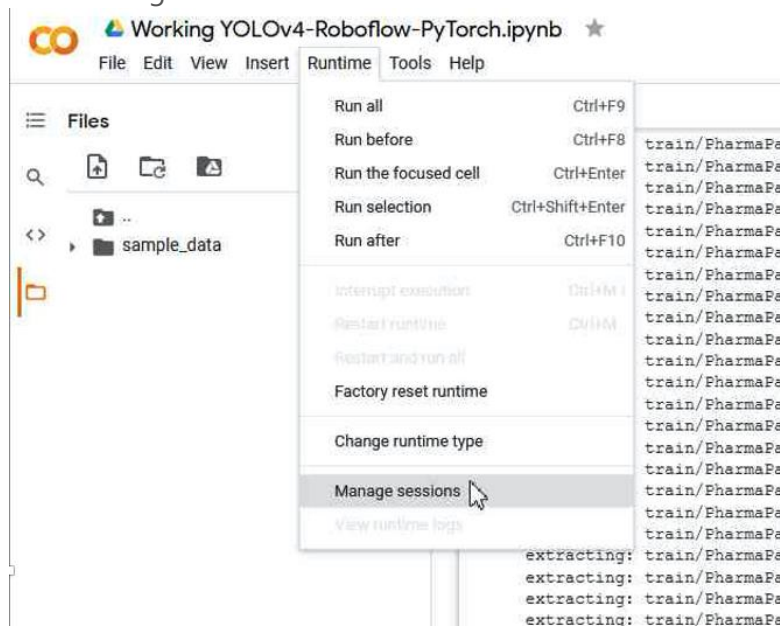
2 Google Colab Setup

To apply for both algorithms:

Step 1: User left click in Tools
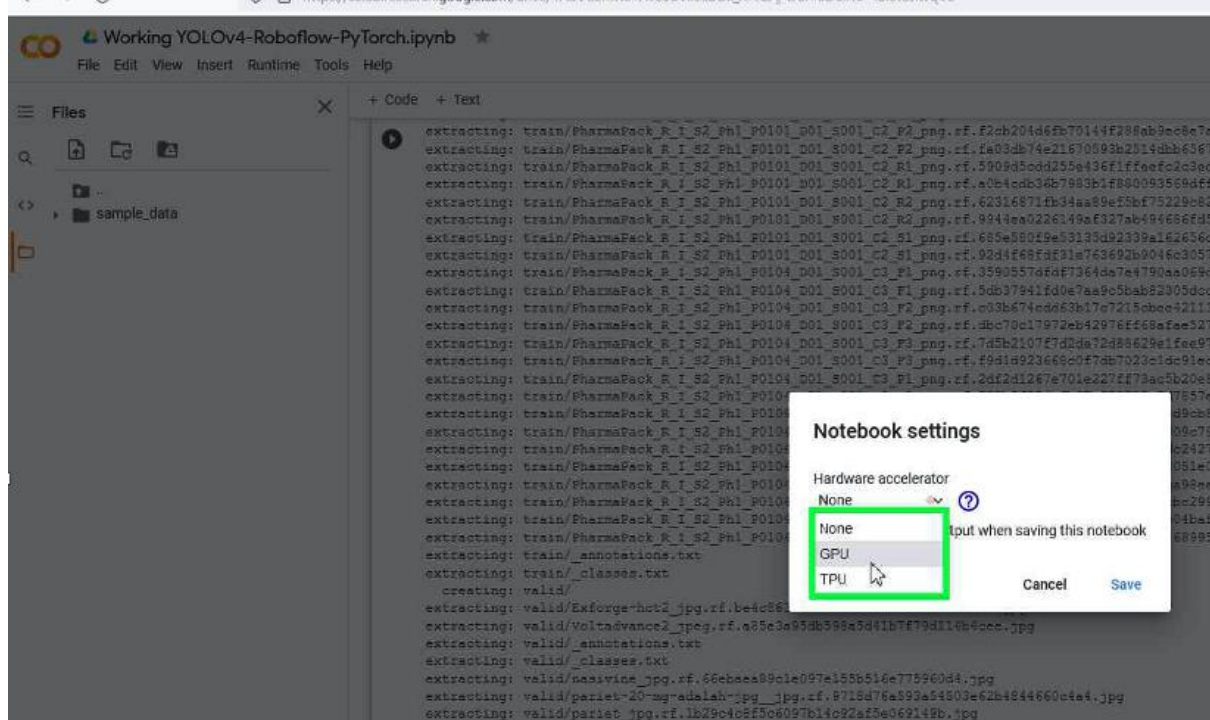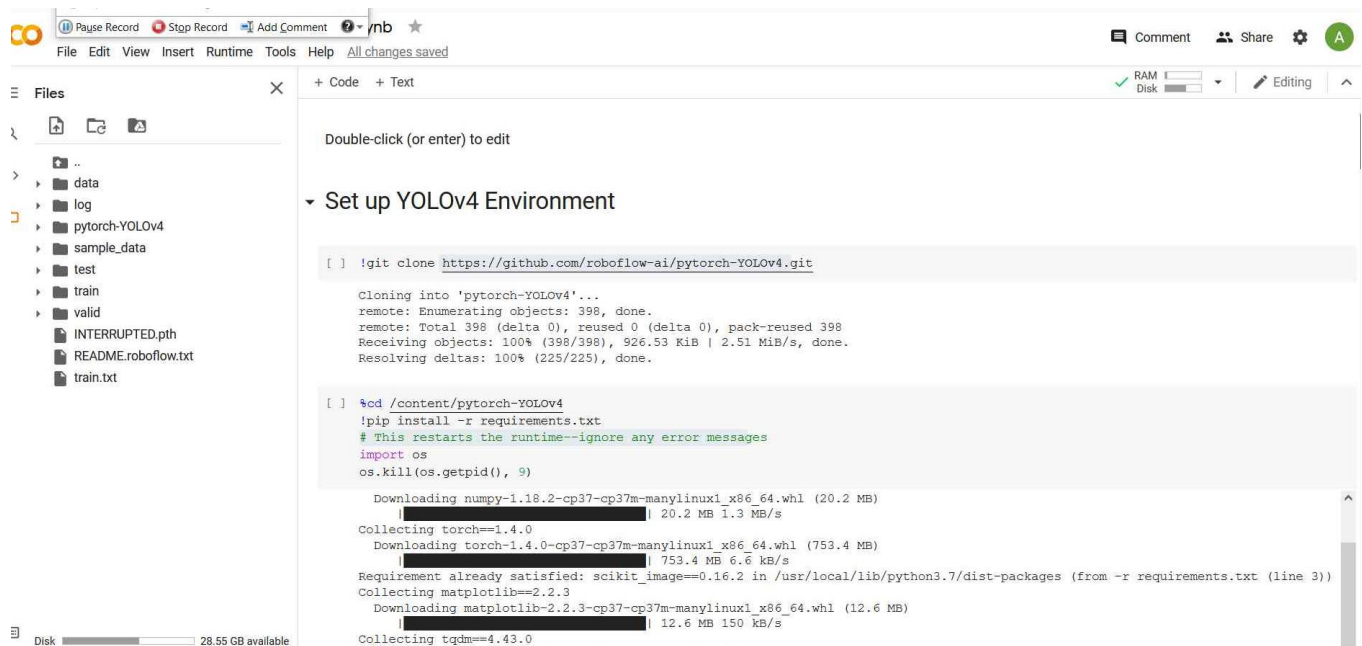

Step 2: User left click Manage Sessions

Step 3: User left click on "GPU (list item)"

Step 4: User left click on "Save (button)" in "Working YOLOv4-Roboflow-PyTorch.ipynb - Colaboratory — Mozilla Firefox"
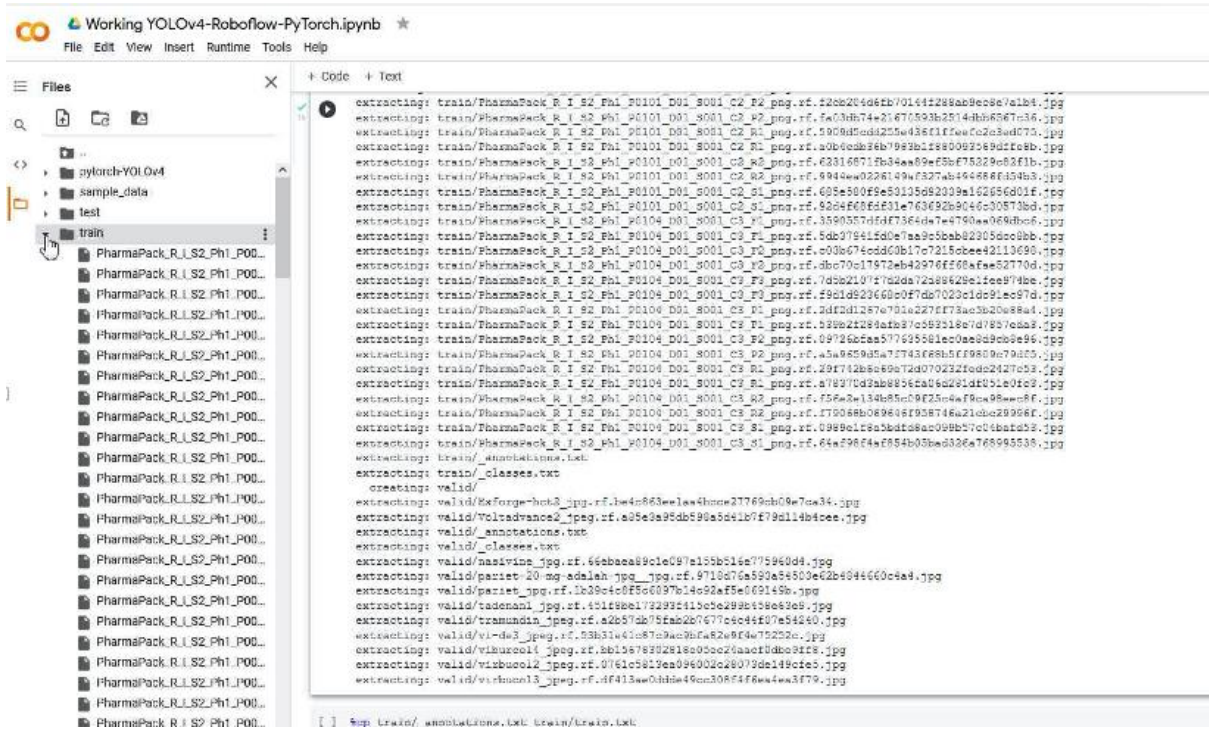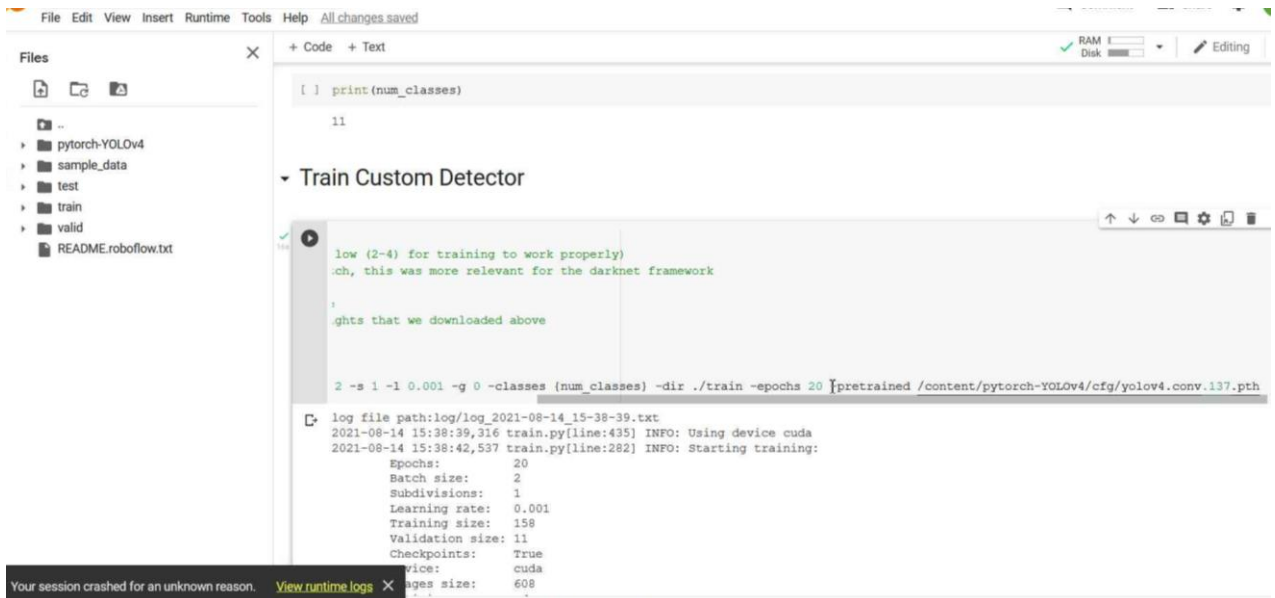

2.1 YOLOv4

- Run the first command to setup environment

- Extract the dataset in the folders:

- Download the pretrained weights to execute the training.

2.2 MASK R-CNN

- Import libraries from pytorch
- Import and extract the Dataset files.

```
import torch
import torchvision
```

```
%cd /content/

!curl -L "https://app.roboflow.com/ds/aoEqUSt6Dd?key=yR4nzDL1Dt" > roboflow.zip; unzip roboflow.zip; rm roboflow.zip
```

```
/content
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
100   887  100   887    0     0    291      0  0:00:03  0:00:03 --:--:--   291
100 2313k  100 2313k    0     0   691k      0  0:00:03  0:00:03 --:--:--  691k
Archive:  roboflow.zip
 extracting: README.roboflow.txt
   creating: test/
 extracting: test/Exforge-hct_jpg.rf.33fdeffae3a94294dd8c579b61fe988f.jpg
 extracting: test/Voltadvance_jpeg.rf.b00b75997992d11f1883a75aa25e20b8.jpg
 extracting: test/_annotations.coco.json
 extracting: test/vi-de32_jpeg.rf.d024500be62cd8e61fd6b175a3bcdd79.jpg
 extracting: test/virbucol_jpeg.rf.2c3af53d9380727d1b65bee18a28b66b.jpg
   creating: train/
 extracting: train/PharmaPack_R_I_S2_Ph1_P0025_D01_S001_C3_F1_png.rf.33afc9f9816dcf9916a6e45b9f45b8f5.jpg
 extracting: train/PharmaPack_R_I_S2_Ph1_P0025_D01_S001_C3_F1_png.rf.eb12344159a4586cef24e06c28837e4e.jpg
 extracting: train/PharmaPack_R_I_S2_Ph1_P0025_D01_S001_C3_F2_png.rf.736b7fc91126c34746b4f78f4c22bccd.jpg
 extracting: train/PharmaPack_R_I_S2_Ph1_P0025_D01_S001_C3_F2_png.rf.981d5778264bd72285d89fdbcd7a1039.jpg
 extracting: train/PharmaPack_R_I_S2_Ph1_P0025_D01_S001_C3_F3_png.rf.361667829b47bb0332c38b1825a26e2c.jpg
 extracting: train/PharmaPack_R_I_S2_Ph1_P0025_D01_S001_C3_F3_png.rf.8ec9d33251d099576ff64a34f94f4554.jpg
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 extracting: train/PharmaPack_R_I_S2_Ph1_P0025_D01_S001_C3_R1_png.rf.3ebbd56e704cb8ffe9962b5a7a10ac36.jpg
 extracting: train/PharmaPack_R_I_S2_Ph1_P0025_D01_S001_C3_R1_png.rf.ee287294ad23722401b5a05c651016bb.jpg
```

References

[1] YOLOv4 PyTorch PyTorch Object Detection Model (no date) Roboflow. Available at: https://models.roboflow.com/object-detection/yolov4-pytorch .

[2] Train Roboflow (no date). Available at: https://docs.roboflow.com/train.

[3] SIP - Dataset PharmaPack (no date). Available at: http://sip.unige.ch/projects/snf-200021-165672/pharmapack/index.php?cID=292#download.

[4] Google Colaboratory (no date). Available at:
https://colab.research.google.com/notebooks/intro.ipynb?utm_source=scs-index.

[5] torchvision.models — Torchvision 0.10.0 documentation (no date). Available at:
https://pytorch.org/vision/stable/models.html