

# **Configuration Manual**

MSc Research Project MSc in Science Cloud Computing

Alvaro Ricardo Corral Paramo Student ID: 19190565

> School of Computing National College of Ireland

Supervisor: Vikas Sahni

#### **National College of Ireland**



#### **MSc Project Submission Sheet**

#### School of Computing

| Student<br>Name:        | Alvaro Ricardo Corral Paramo   |        |        |
|-------------------------|--------------------------------|--------|--------|
| Student ID:             | 19190565                       |        |        |
| Programme:              | MSc in Science Cloud Computing | Year:  | 2021   |
| Module:                 | MSc Research Project           |        |        |
| Lecturer:<br>Submission | 16th August of 2021            |        |        |
| Due Date:               |                                | •••••• | •••••• |

**Project Title:** A drug identification model developed using instance segmentation

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:

Gral

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                          |  |
| <b>submission,</b> to each project (including multiple copies).                   |  |
| You must ensure that you retain a HARD COPY of the project,                       |  |
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| 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.

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|----------------------------------|--|
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| Date:                            |  |
| Penalty Applied (if applicable): |  |

## **Configuration Manual**

#### Alvaro Ricardo Corral Paramo Student ID: 19190565

### 1 Dataset

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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"

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

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### 2 Google Colab Setup

To apply for both algorithms:

Step 1: User left click in Tools

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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

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| <ul> <li>sample_data</li> <li>test</li> </ul> | [] !git clone https://github.com/roboflow-ai/pytorch-YOLOv4.git   |       |
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| Pharmarack_R_Loz_Phil_Pop.           | 7.1 See to be and the set of the set of the set   |

- Download the pretrained weights to execute the training.

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|---|----------------|---|-----------------------|
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|   |                | [ ] print(num_classes)  |                       |
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|   |                | C log file path:log/log_2021-08-14_15-38-39.txt<br>2021-08-14 [5:38:39,36 train.py[line:343] INFO: Using device cuda<br>2021-08-14 [5:38:42,537 train.py[line:282] INFO: Starting training:<br>Epochs: 20<br>Batch size: 2<br>subdivisions: 1<br>Learning rate: 0.001<br>Training size: 158<br>Validation size: 11<br>Checkpoints: True<br>view: cuda |                       |
| Your session crashed for an unknown reas                              | son. <u>Vi</u> | ew runtime logs × ages size: 608  |                       |

### 2.2 MASK R-CNN

- Import libraries from pytorch

- Import and extract the Dataset files.

| ٩ | import torch<br>import torchvision  |
|---|---|
|   | <pre>Acd /content/<br/>acut -L "https://app.roboflow.com/ds/aoEqUSt6Dd?key=yR4nzDL1Dt" &gt; roboflow.zip; unzip roboflow.zip; rm roboflow.zip</pre>   |
| 1 | 'content       * Total       * Received * Xferd       Average Speed       Time       Time       Time       Current         bload       Upload       Total       Spent       Left       Speed         100       887       10       887       0       291       0:00:03       -::       291         100       2313k       0       691k       0:00:03       0:00:03       -::       691k         uchtact       READER       Rebole       Robel or tyt       ***       ***       ***  |
|   | <pre>creating: test/Exforge-hct_jpg.rf.33fdeffae3a94294dd8c579b61fe988f.jpg extracting: test/Voltadvance_jpeg.rf.b00b75997992d11f1883a75aa25e20b8.jpg extracting: test/vinde32_jpeg.rf.d024500be62cd8e61fd6b175a3bcdd79.jpg extracting: test/vinbucol_jpeg.rf.2c3af53d9380727d1b65bee18a28b66b.jpg creating: train/</pre>   |
|   | extracting: train/PharmaPack_R_I_S2_Phl_P0025_D01_S001_C3_F1_png.rf.33afc9f9816dcf9916a6e45b9f45b8f5.jpg<br>extracting: train/PharmaPack_R_I_S2_Phl_P0025_D01_S001_C3_F1_png.rf.ehl344159a4586cef24e06c28837e4e.jpg<br>extracting: train/PharmaPack_R_I_S2_Phl_P0025_D01_S001_C3_F2_png.rf.736b7fc91126c34746b4f73f4c22bccd.jpg<br>extracting: train/PharmaPack_R_I_S2_Phl_P0025_D01_S001_C3_F2_png.rf.981d5778264bd72285d89fdbcd7a1039.jpg<br>extracting: train/PharmaPack_R_I_S2_Phl_P0025_D01_S001_C3_F2_png.rf.981d5778264bd72285d89fdbcd7a1039.jpg<br>extracting: train/PharmaPack_R_I_S2_Phl_P0025_D01_S001_C3_F3_png.rf.81667829b47bb033c23b1825a26e2c.jpg<br>extracting: train/PharmaPack_R_I_S2_Phl_P0025_D01_S001_C3_F1_png.rf.80e5d13251d099576f64a34f34f445454.jpg<br>extracting: train/PharmaPack_R_I_S2_Phl_P0025_D01_S001_C3_F1_png.rf.80e5d135f664a34f39b4f51b571.jpg |
|   | extracting: train/PharmaPack_R_I_S2_Ph1_P0025_D01_S001_C3_PI_png.rt.easJ0c3/bb043/abc9Cat3136a/84414.jpg<br>extracting: train/PharmaPack_R_I_S2_Ph1_P0025_D01_S001_C3_P2_png.rt.fbb595385166080454368141Ab46ee.jpg<br>extracting: train/PharmaPack_R_I_S2_Ph1_P0025_D01_S001_C3_P2_png.rt.98099016eae0ef442aa71db244a887f4.jpg<br>extracting: train/PharmaPack_R_I_S2_Ph1_P0025_D01_S001_C3_R1_png.rt.3ebb456e704cb8ffe9962b5a7a10ac36.jpg<br>extracting: train/PharmaPack_R_I_S2_Ph1_P0025_D01_S001_C3_R1_png.rt.ee287294ad2372240105a05c651015bb.jpg  |

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