

Convolutional Neural Networks: Object Detection

Object Detection

Introduction

- Object Detection is a type of Deep Learning, which
 - detects locations of objects in an image
 - highlights the area with a rectangle
- Many different algorithms
 - Fast R-CNN
 - Faster R-CNN
 - YOLO (You only look once)
 - SSD (Single Shot Detector)
- Typically, custom training setup cumbersome to setup and time-consuming training

Object Detection

detecto

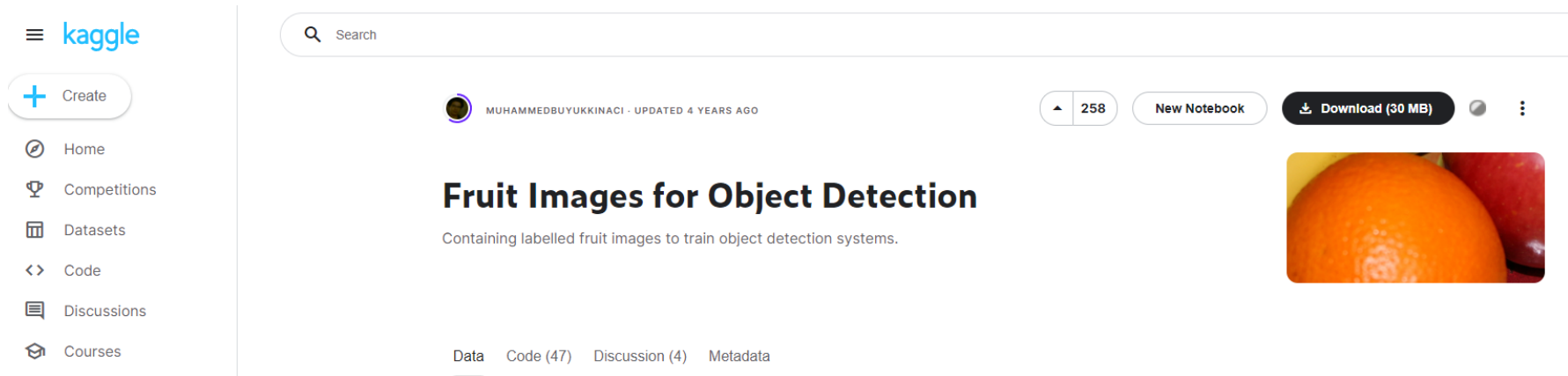
- “detecto”
 - Python package
 - based on PyTorch
 - Claims to “build fully-functioning computer vision and object detection model with jus 5 lines” (well, close to)
 - Relies on [Faster R-CNN ResNet-50 FPN](#)



Object Detection

Coding

- Simplified dataset with labels and bounding boxes: “apples”, “bananas”



The screenshot shows the Kaggle website interface. On the left is a navigation sidebar with the Kaggle logo and links for Home, Competitions, Datasets, Code, Discussions, and Courses. The main content area displays the dataset page for 'Fruit Images for Object Detection' by user MUHAMMEDBUYUKKINACI, updated 4 years ago. The page has 258 votes and includes buttons for 'New Notebook' and 'Download (30 MB)'. A thumbnail image of an orange is shown on the right. At the bottom, there are tabs for 'Data', 'Code (47)', 'Discussion (4)', and 'Metadata', with 'Data' being the active tab.

Search

MUHAMMEDBUYUKKINACI · UPDATED 4 YEARS AGO

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New Notebook

Download (30 MB)

Fruit Images for Object Detection

Containing labelled fruit images to train object detection systems.

Data Code (47) Discussion (4) Metadata

Source: <https://www.kaggle.com/datasets/mbkinaci/fruit-images-for-object-detection>

Object Detection

Coding

- Result after 20 epochs

