🛠️

Instruction

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Setup:

> ⚠️ **You need to use only Google Colab.**
> *(In terms to don't install dependencies manually)*

Github repository link: https://github.com/Slimmerd/car-detection

1. Open google colab
2. Choose file → open notebook
3. Choose github
4. Paste the link
5. Press on Main.py

To test model:

You need to do:

1. Run part 1 and 1.1
2. In part 2, change `CUST_MODEL_NAME` to model you want to test (available 2k_model, 8k_model, 20k_model)
3. Run part 2

4. Run part 3.1 only first block which is about downloading dataset
5. Run part 5
6. Run part 11 (CHECK NOTE BEFORE RUN)

> NOTE: In part 11 do not forget to change checkpoint to the highest of your model. It can be checked in particular model folder. Or if you use presented models: 2K - `cpkt-3`, 8K - `cpkt-9` , 20K - `cpkt-21`

7. Run part 12
8. In part 12.1 select the image you want to test by changing value of `IMAGE_PATH`
9. Run 12.1
10. Run 12.2

To train model:

> ⚠️ Firstly in Google Colab you need to change Runtime type
> click Runtime → Change Runtime Type → Hardware Accelerator → GPU → Save

1. Run part 1 and 1.1
2. In part 2, in `PRET_MODEL_URL` paste url to model you want to use, if you want to use different one.
    a. If you chose to use different one, in `PRET_MODEL_NAME` paste the name of the model filename
3. In part 2, change `CUST_MODEL_NAME` to the name you want
4. Run whole part 3
5. Run part 4

    a. In part 4.1 choose input size for train and testing. The maximum for current dataset is 9218
    b. Continue run part 4
6. Run part 5
7. Run part 6
8. Run part 7 (NOTE: If you use different pre-trained model check the latest checkpoint of it and paste it to `fine_tune_checkpoint`)
9. In part 8, in `train_command` choose number of steps
    a. Run part 8
10. Export model if you need it
11. Run part 11 (CHECK NOTE BEFORE RUN)

> NOTE: In part 11 do not forget to change checkpoint to the highest of your model. It can be checked in particular model folder. It might be for example `'/ckpt-3'`

12. Run part 12
13. In part 12.1 select the image you want to test by changing value of `IMAGE_PATH`
14. Run 12.1
15. Run 12.2

If stats needed:

In section 13

You need to change:

- In first block you need to change the folder with you custom model. For available it would be 8k_model, 20k_model etc...

  `%tensorboard --logdir=car-detection/models/custom/YOUR_CUSTOM_MODEL_NAME`
- In second block you need to change

```
-logdir car-detection/models/custom/YOUR_CUSTOM_MODEL_NAME
```