

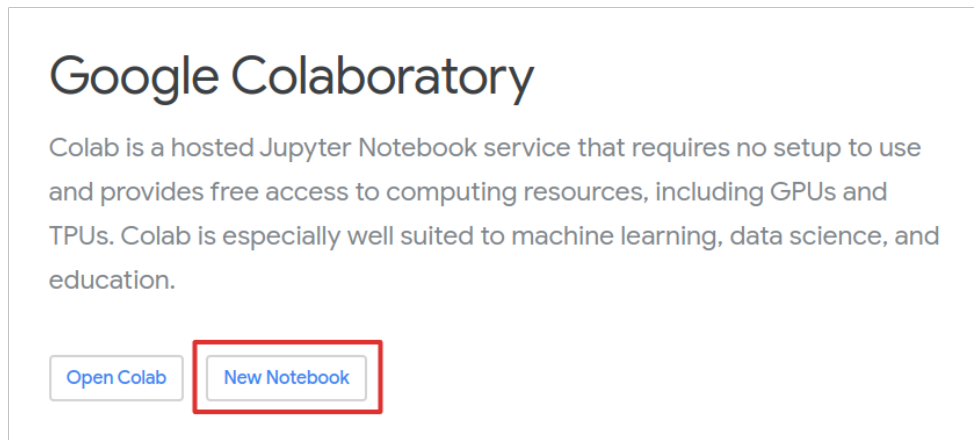
## Homework 3

### *Building Your Own CNNs<sup>1</sup>*

Welcome to your third assignment, where you'll be implementing key components of a Convolutional Neural Network, or CNN, using TensorFlow and Keras API! This document provides some pre-instructions before starting your homework. The instructions for your assignment will be provided in "**BIM459-HW3.ipynb**" file.

Your homework file is designed to be used in the **Google Colab** environment. Therefore, you may encounter many errors if you try to run your code on your local computer. Also, it is recommended to use GPU instead of CPU in Google Colab because you have a large amount of training data and the CPU will process this data very slowly because it is not designed for this.

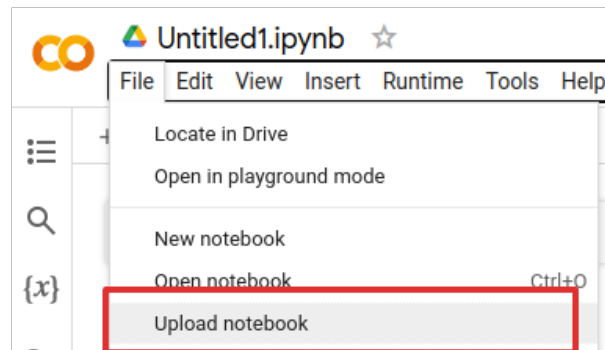
1. Go to [Google Colab](#) page.
2. Click **New Notebook** button to open an empty notebook.



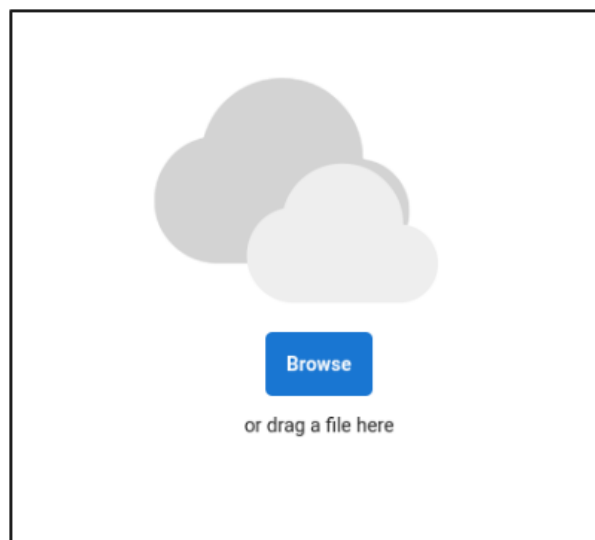
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<sup>1</sup>This document was prepared by Umut Kaan Kavaklı

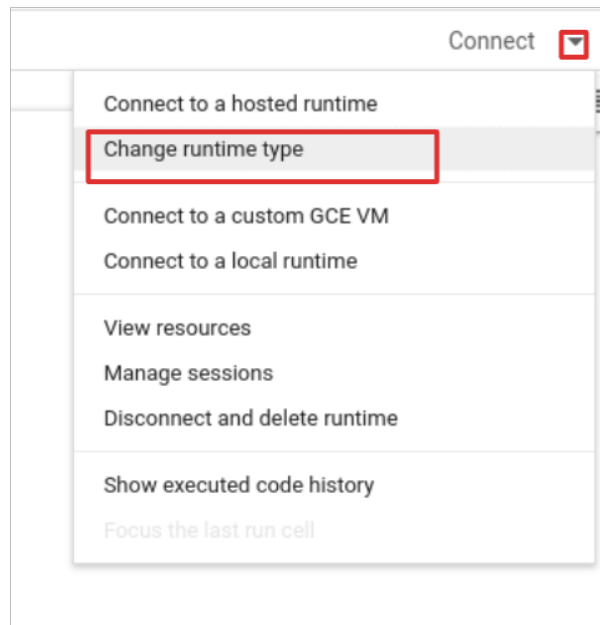
3. On the left corner of the page, click **Upload notebook** after **File** button.



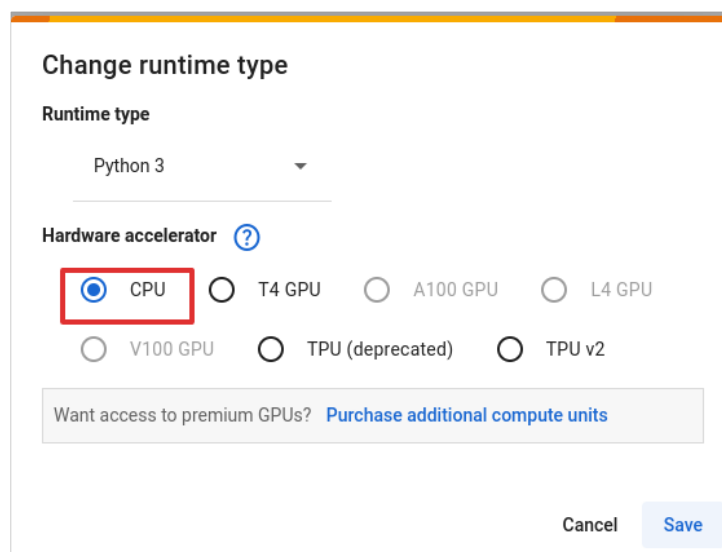
4. Upload your homework template "**BIM459-HW3.ipynb**" here.



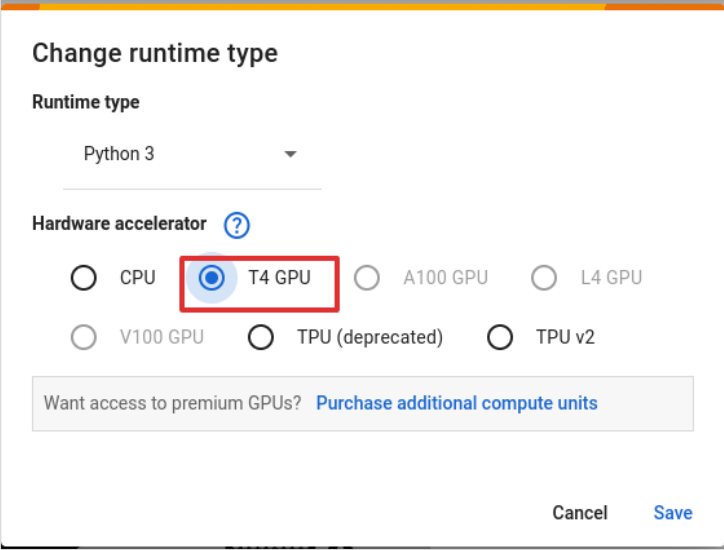
5. After uploading, you can see your homework assignment. Before starting, there are some notes you need to be careful. In the right corner of the page, click on the down arrow and then click on the **Change runtime type** button.



6. You will see different types of devices to train your machine-learning models. If the default option is not **CPU**, please click CPU. As a start, you need to understand your homework and test your code with CPU because Colab gives GPU in a limited time. Because of that, you will use a GPU when you really need it to train your models fast.



7. If all of your implementations are done and everything works correctly, you can switch to GPU to train your model by clicking the **T4 GPU** option.



**Change runtime type**

Runtime type

Python 3 ▼

Hardware accelerator ?

☐ CPU ☒ **T4 GPU** ☐ A100 GPU ☐ L4 GPU

☐ V100 GPU ☐ TPU (deprecated) ☐ TPU v2

Want access to premium GPUs? [Purchase additional compute units](#)

Cancel Save

## Submission

- Save your notebook file including your code.
- Save your plots of training and validation for the loss and metric results.
- Save your test scores for the loss and metrics.
- DO NOT SEND your model's weights.
- Compress your homework folder with **.zip** extension.
- Send an email to [umutkaankavakli@ogr.eskisehir.edu.tr](mailto:umutkaankavakli@ogr.eskisehir.edu.tr) with your homework file by stating your name.