Al on NVIDIA Jetson Nano (Day 8)

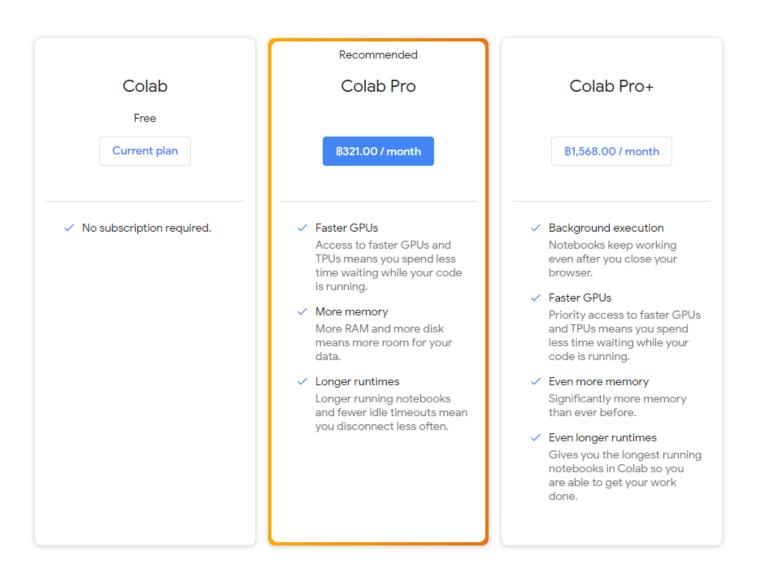
Outline

- Quick Start Guide: Colab
- Transfer Learning / Fine-tuning

What is Colaboratory?

- Colaboratory, or "Colab" for short, allows you to write and execute Python in your browser
 - With zero configuration required
 - With free access to GPUs
 - With easy sharing
- Whether you're a student, a data scientist or an Al researcher
- Let's get started on the Colab
 - https://colab.research.google.com/

Google Colab Pricing



Transfer Learning / Fine-Tuning

- Caltech 101 Dataset
 - Pictures of objects belonging to 101 categories, about 40 to 800 images per category.
 - Size: 131MB
 - http://www.vision.caltech.edu/Image Datasets/Caltech101/
- Fine-Tuning Model
 - ImageNet Dataset: More than 14 million images and 20,0000 categories
 - 1,281,167 training images, 50,000 validation images and 100,000 test images
 - Size: 166.05GB
 - https://www.image-net.org/update-mar-11-2021.php
 - https://www.kaggle.com/c/imagenet-object-localization-challenge/overview/description
 - Using the pre-trained model VGG-19 as a feature extractor for transfer learning on the Caltech 101 dataset

References / Useful Links

- What is Colaboratory?
 - https://colab.research.google.com/notebooks/intro.ipynb?utm_source=scs-index
- Introduction to Colab (Video)
 - https://www.youtube.com/watch?v=inN8seMm7Ul
- Python Tutorial
 - https://www.w3schools.com/python/default.asp
- Very Deep Convolutional Networks for Large-Scale Image Recognition
 - https://arxiv.org/abs/1409.1556
- Popular Trained Image Classification Models for Keras
 - https://github.com/fchollet/deep-learning-models