**Computing Resources (last updated 8/20, please give updated info to TAs if needed)**

There are several computing resources available to us as students either for free or for discounted rates. I have compiled below a list of these resources. This list is not exhaustive and there may be more options available.

**Google Colab** **(recommended).**

Google gives free access to GPU through Google Colab. This is completely free. But the downside is that you can run your notebook for 12 hours only. After that you have to restart the kernel. There is a limitation on the RAM too but it is quite generous. Here is an [excellent link](https://medium.com/deep-learning-turkey/google-colab-free-gpu-tutorial-e113627b9f5d) on how to get started with google colab.

Setting up Colab initially can be tricky and not doing it the right way gives way to a ton of frustration. [Here](https://towardsdatascience.com/getting-started-with-google-colab-f2fff97f594c) is a guide to help.

**Google Cloud**

Google gives everyone $300 of credit to use. We can create and train our models on the google cloud. This link by Andrej Karpathy gives an excellent tutorial on how to set up google cloud instance <http://cs231n.github.io/gce-tutorial/> .

Here is another link explaining what GCP is and how to use it : <https://www.youtube.com/watch?v=JtUIQz_EkUw>

Make sure to stop your instance when you are not using them otherwise you will run out of credits.

**AWS**

AWS free tier gives 12 month of free access to AWS resources. However, there are certain limitations to it. You can only store upto 5GB of data in Amazon S3 for free. There is also a limit on compute time. Here is the link with more details : <https://aws.amazon.com/free/>

AWS has come out with Amazon SageMaker which allows to easily create python notebooks and run machine learning models.

Hers is a video by Siraj Raval where he shows how to use SageMaker : <https://www.youtube.com/watch?v=zkzED9HvMG0>

**FloydHub**

FLoydHub is also cheap and is a good alternative to GCP. And the rates are reasonable too. They have a free option but it does not provide free GPU resources.

Here is a tutorial on how to use FloydHub : <https://www.youtube.com/watch?v=relTVr694Ko>

**Paperspace**

Paperspace provides computing resources at a very cheap rate. <https://www.paperspace.com/>

Here is a link to tutorial : <https://www.youtube.com/watch?v=8RJX8WNcXyI>

**PythonAnyWhere**

You can explore this website which provides you with computing resources. The rates are reasonable.

<https://www.pythonanywhere.com/>

**Azure**

Azure gives students free $100 of credits to be used within 12 months. There is a limit on the resources available though. You can refer to this link for more info : <https://azure.microsoft.com/en-us/free/free-account-students-faq/>