**ReadMe:**

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\*\* Disclaimer: For this assignment I used the following articles:

1. <https://github.com/jacobgil/pytorch-grad-cam>
2. <https://github.com/facebookresearch/moco>

The file is divided into 3 parts: The notebook should not be run unless one wants to inspect other parts of the code. The notebook inspects:

Part One – **Project DL**

1. **Import and downloads:**

* Mount to Drive: Press the provided link, copy the validation code, paste into the box and press enter.
* Change to a relevant path: Change the path in “path” to a desired directory to be able to open/save the data from the Drive folder.

1. **Creating Datasets**

* In “Project DL” we define the transformations to be applied to the images. This way we augment the dataset, allowing for better generalization and helping prevent overfitting

1. **Running different nets:**

* Make sure you got all the data been created and, in the directory, you crated
* Run the nets but the different fit cells
* Make sure you put a different number of epochs in each net.

1. **Summary of results:**

* Get different convolutions for each net
* Get different grad come of each net

Part two- **Self Supervise Model:**

1. **Import and downloads:**

* Mount to Drive: Press the provided link, copy the validation code, paste into the box and press enter.
* Change to a relevant path: Change the path in “path” to a desired directory to be able to open/save the data from the Drive folder.

1. **Avoiding from changing the data path**
2. **Creating Datasets**

* In “Self Supervise” we define the transformations to be applied to the images. This way we augment the dataset, allowing for better generalization and helping prevent

1. **Summary of results:**

* Get different convolutions for each net

Part Three - **GAN Model**:

1. **Import and downloads:**

* Mount to Drive: Press the provided link, copy the validation code, paste into the box and press enter.
* Change to a relevant path: Change the path in “path” to a desired directory to be able to open/save the data from the Drive folder.

1. **Creating Datasets:**

* For the first run we're going to create the base network class, this way we can define steps that are general for training and data handling that’s independent (to a certain degree) of the specific network architecture.
* Run the GAN model with 500 epochs and LR of

1. **Summary of results:**

* Get different convolutions matrix for each net