

# CSE 5370: BIOINFORMATICS FINAL PROJECT

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## **2. PyTorch Implementation**

### **2.1 Setting the framework**

Initially I unzipped the Vae file and uploaded it to my Google drive. To execute , I opened the main.ipynb file in Google Collaboratory.

### **2.2 Downloading your Dataset**

I have set the runtime to GPU and updated the STUDENT\_ID in the fourth block and attempted to run the first seven blocks of code in the main.ipynb file according to the given instruction in pdf. Three .svs files are downloaded into the data directory following the execution of the seventh block. These three files include tumour images. The links will redirect us to the GDC Data Portal, which will display the image details.

### **2.3 dataset.py Placeholders**

According to given instructions in the comments of dataset.py Script. I have updated the functions of `__getitem__` and `__len__`.

### **2.4 datamodule.py Placeholders**

According to given instructions in the comments of datamodule.py script. I have updated the functions of `train_dataloader`, `val_dataloader` and `test_dataloader`

### **2.5 task.py Placeholders**

According to given instructions in the comments of task.py script. I have updated the functions of `training_step`, `validation_step` and `test_step`

### **2.7 main.ipynb Notebook**

I have run the remaining blocks of code in the main.ipynb file which created a logs folder in the general directory of the vae folder and launched TensorBoard to display the visualizations generated by the log files in the specified directory. All these versions of the outputs are stored in the logs/trail folder in the general directory. The outputs can be visualized by launching TensorBoard with the help of the code `% tensorboard --logdir {LOGGING_DIR}/{LOGGING_NAME}` in the main.ipynb file.

## **4. Difficulty adjustment**

I finished my assignment in 16 hours. I felt that the assignment was a bit hard and that it took me some time to complete it.