Tensorflow with Anvil

Between when I first tried anvil and now, tensorflow has stopped working on anvil. There is a workaround, however. Anvil can call python functions that live on other computers. For example, you can write a jupyter notebook on your computer that has some functions in it and tell anvil to access those functions. Then when someone uses your webpage, if that function needs to be called, it will be executed on your machine. This is the anvil uplink feature.

The uplink feature requires your computer to be turned on and running your jupyter notebook when the page is called. This can be a bit burdensome. Another work around it to host your python code on an AWS virtual machine. The simplest way to do this is to go to aws.amazon.com and sign up for an account. You have to sign up with a credit card, but you'll be able to launch a machine for free that won't charge your card.

There are MANY different types of AWS virtual machines. The simplest one is called lightsail. Once you create and login to your AWS account, in the top search bar just search for lightsail and click the link. Under the instances tab, click the button to create an instance. Select Linux/Unix as the platform and select the Django app for the blueprint (this will just make sure python is installed on your instance). Then go down and pick whichever rate plan is currently free. As of me writing this, there are 2 plans that have 3 free months. Just remember to delete this instance when the semester is over to avoid being charged.

Once the instance is created, go back to the lightsail page and on the instance tab there will be an icon of >_. Click that and it will open a new window that is the terminal for your machine. You can pip install any packages you want there, just like any other computer.

You need to be able to transfer files (like your code and your tensorflow model) into your machine too; you do that using an ftp app called filezilla. Instructions can be found here: https://lightsail.aws.amazon.com/ls/docs/en_us/articles/amazon-lightsail-connecting-to-linux-unix-instance-using-sftp

You'll need to write your python files in a .py file, instead of a jupyter notebook. At the bottom of your .py file be sure to include anvil.server.wait_forever(). This will make sure your functions stay available to be called by your webpage. Once you're ready to run your python, go to the virtual terminal, cd to where the code is located and run: python filename.py

If you want to stop your code, simply do control+c in the virtual terminal.