

Self Organizing Map

Setting up an account in Rivanna

How to get access to UVA-Rivanna?

Only faculty, staff and Research associate are eligible to be the Principle Investigator (PI) who can request access to the Rivanna. Students (undergraduate or graduate) will request the access to the PI.

For faculty, staff and research associate who want to request Rivanna access, here is the form:

<https://arcs.virginia.edu/secure/standard-allocation-request>

For students who work in the Solid Polarized target group, just email me (za2hd@[virginia.edu](mailto:za2hd@virginia.edu)) and I will grant you the access to the Rivanna.

Here are some important link to start:

<https://arcs.virginia.edu/rivanna>

<https://arcs.virginia.edu/getting-started>

<https://arcs.virginia.edu/frequently-asked-questions>

How to connect?

You can connect using Linux terminal or Web-based-terminal. To connect to the Web-based-terminal:

1. Go to: <http://rivanna-portal.hpc.virginia.edu/>
2. Log in with your computing ID and password
3. Click Clusters and Then Click Rivanna Shell Access
4. You should see the terminal opened. And you are in /home/<your computing id>. For example, mine would be /home/za2hd

An example:

You can work either in your home directory or /scratch/<USER ID>.

Once you logged in. go to your working directory and copy the main codes, which are located in polar machine /home/ptgroup/Akbar/som/som2019/may/test/test4:

```
scp pgroup@polar.phys.virginia.edu:/home/ptgroup/Akbar/som/som2019/may/test/test4/*.py .
```

type the standard password of pgroup

Then copy the text files which contains the generated signal and background:

```
scp pgroup@polar.phys.virginia.edu:/home/ptgroup/Akbar/som/som2019/may/test/test4/*.txt .
```

type the standard password of pgroup

Then copy the script to submit job using slurm to rivanna

```
scp pgroup@polar.phys.virginia.edu:/home/ptgroup/Akbar/som/som2019/may/test/test4/hello5.slurm .
```

In your directory:

1. copy the "singularity" which is the bundle tensorflow package: `cp $CONTAINERDIR/tensorflow-1.12.0-py36.simg <YOUR DIRECTORY>`
2. If step-1 above does not work, for the first time you need to run this command: `module load singularity/2.6.1` and after that run this command: `module load tensorflow/1.12.0-py36`; It will tell you how to copy the container.
3. Run the JOB: `sbatch hello5.slurm`
4. See the job status: `scontrol show job <your job id (it will appear after you submit the job)>`
5. Wait at around 20-25 minutes to complete the job
6. Once the job complete you will see some *.png files and output text files.

Try to follow the instruction. Let me (Zulkaida) know if you encounter any problems. We will discuss the next step after you successfully run the code.

Running in the Amazon (AWS EC2)

The code/framework that I use currently is running in the Amazon (AWS EC2). First, we have to Log in to activate the machine:

<https://us-west-2.console.aws.amazon.com/ec2/v2/home?region=us-west-2#Instances:sort=instanceId>

User name: za13@my.fsu.edu

Password: Siti-250910

Then we need to activate the machine: Click action Click Start

Then we need to ssh into the machine. All about ssh/scp can be read here:

<https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/AccessingInstancesLinux.html>

The private key (.pem) is setup in polar machine: ptgroup@polar.phys.virginia.edu. Therefore, the `/path/my-key-pair.pem` is located in

Once we log in, the code is located in:

Some of the previous study are summarized in:

As well as the U-matrix representation: