## **A simple guide for the Experiment on LANL Earthquake Prediction**

*This simple guide allows you to repeat our experiments.*

## **1. Create a machine**

First of all, you’ll need a machine with more than 15GiB of memory and more than 1 core. If you have it, you can skip this step. Otherwise, you need to set a machine on the cloud. For this experiment we used a VM instance on **Microsoft Azure Cloud** (NC6 Standard machine with 6 virtual CPUs, 56 GBs RAM and Ubuntu). We assume to have **Ubuntu** on the VM.

## **2. Login on VM**

If you use your pc, skip this step.

After creating a VM, you’ll need to access to it. You can do it in two different ways, depending on your OS.

On **Windows** you need to install:

1. **PuTTY**, an SSH and telnet client (https://www.putty.org/).
2. **Xming**, a useful tool for remote visual interactions (windows with graphs and more). (http://www.straightrunning.com/XmingNotes/).

On **Ubuntu** you can use the **ssh** command with option -X (https://www.ssh.com/ssh/command/).

On **Windows** you have to launch Xming, then Putty. Before starting the ssh session, you need to enable "X11 Forwarding" (Putty > Connection > SSH > X11). Then, you can access your VM with IP, username and password.

## **3. Configure your VM**

You should have the **git** package, otherwise:

sudo apt-get install git

The repository with our experiments is on **Github**, you only need to make a clone of it:

git clone https://github.com/GiusTemp/kaggleunibo

The code (in Python) is inside the **/code** directory. You can find here a subfolder **/results**, where all our results are divided into different folders for each experiment. Before running the scripts, you need to download the **repository with training and test set** from Kaggle, that can be done directly from the VM, as follows.

pip install kaggle

kaggle competitions download -c LANL-Earthquake-Prediction

To run Kaggle’s API correctly, a file called **kaggle.json** in **/.kaggle** needs to be configured. This json file is generated automatically from your **Kaggle account**, so you have to download it and put it into a /.kaggle repository (it is an hidden directory in your home). You will use it to **download data** and **submit solutions**. (For more details https://github.com/Kaggle/kaggle-api).

## **4. Run a script**

If you want to run a script, you should set correctly a **path inside the code**. The folder **/result** contains all our experiments, if you want to run one:

python SCRIPT\_NAME.py

It could take some minutes for the execution, depending on your machine. When it will be finished, you can submit your solution with a simple command:

kaggle competitions submit -c LANL-Earthquake-Prediction -f YOUR\_RESULTS.csv -m "MESSAGE"