GUCCI CBMSOFT/ROOT INSTALL TUTORIAL:
1. Install FairSoft:

```
sudo apt -y install autoconf automake binutils bison build-
essential bzip2 ca-certificates cmake coreutils curl debianutils file
findutils flex g++ gcc gfortran git gzip hostname libbz2-dev libcurl4-
openssl-dev libgsl-dev libicu-dev libfftw3-dev libprotobuf-dev libgl1-
mesa-dev libglu1-mesa-dev libgrpc++-dev libgsl-dev liblzma-dev
libncurses-dev libreadline-dev libsqlite3-dev libssl-dev libtbb-dev
libtool libx11-dev libxerces-c-dev libxext-dev libxft-dev libxml2-dev
libxmu-dev libxpm-dev libyaml-cpp-dev libzstd-dev lsb-release make patch
python3-dev protobuf-compiler-grpc rsync sed sqlite3 libsqlite3-dev
subversion tar unzip wget xutils-dev xz-utils
```

```
export CMAKE_MODULE_PATH=~/Documents/FairSoft/build/Build/root/
ROOTConfig.cmake          [not sure if this was needed]
```

```
export SIMPATH=~/Documents/FairSoft/install/
```

```
cd Documents
```

```
git clone -b jan24_patches https://github.com/FairRootGroup/
FairSoft
```

```
cd FairSoft
```

```
mkdir build
```

```
cd build
```

```
cmake -S .. -B . -C ../FairSoftConfig.cmake
```

```
cmake --build . -j16
```

```
make test -j16
```

Note: It tries to do three tests for different fairroot versions: test 2 (fairroot 18.8) and test 3 (fairroot 19.0) fail! only fairroot 18.6 passes all tests.

If I find the time I can check out /home/ubuntu/Documents/FairSoft/build/Testing/Temporary/ LastTest.log and use "--rerun-failed --output-on-failure" to re-run the failed cases verbosely.
In the following I will choose the branch v18.6 cuz that matches the tests that have passed.
-----
2. Install FairRoot:
```
cd ~/Documents/
```

```
git clone -b v18.6_patches https://github.com/FairRootGroup/
FairRoot.git
```

```
cd FairRoot && mkdir build && cd build
```

```
cmake -DCMAKE_INSTALL_PREFIX="~/Documents/FairRoot" ..
```

```
make -j16
```

```
sudo make install
```

```
make test -j16
```

If it says "100% tests passed" congrats, you are almost done!

-----
3. Source scripts at startup:
```
sudo nano ~/.profile
```

Add the following lines at the end if they do not exist already:
```
export PATH=$PATH:/usr/local/go/bin
export PATH="$HOME/Documents/FairSoft/install/bin:$PATH"
source ~/Documents/FairRoot/build/config.sh
source ~/Documents/FairRoot/bin/FairRootConfig.sh
```

Ensure that the FairRootConfig.sh is executable by running:
```
sudo chmod +x $HOME/Documents/FairRoot/bin/FairRootConfig.sh
```

Save and reboot. Now typing 'echo $PATH' should return a string that contains the substring 'fair' or 'sim' (gophy queries it to quickly check whether a miner might have the required software).

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4. Install CbmRoot:

```
cd ~/Documents/

git clone https://git.cbm.gsi.de/computing/cbmroot

cd cbmroot && mkdir build_cbmroot && cd build_cbmroot

export SIMPATH=/home/$USER/Documents/FairSoft/install

export FAIRROOTPATH=/home/$USER/Documents/FairRoot

cmake ..

make -j8

chmod +x config.sh

./config.sh

sudo nano ~/.profile
```
and add the following two lines at the end:
```
export FAIRROOTPATH=/home/$USER/Documents/FairRoot
source /home/$USER/Documents/cbmroot/build_cbmroot/config.sh
```

Now source the profile using:
```
source ~/.profile
```

Congrats, this is the end of the tutorial. You should now be able to do the following:
```
cd /home/$USER/Documents/cbmroot/build_cbmroot
./run_tra_file.sh
```