CERN research internship

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During July of the summer of 2019 I undertook an internship at LIP labs in Lisbon (https://www.lip.pt/?section=home&page=homepage), which was in conjunction with the University of Lisbon and specifically the ATLAS experiment in CERN. My placement's aim was to analyse the Higgs boson decay into b-quark jets, by creating histograms of the required signal and separating the background. This firstly involved learning to use the coding programs C++ and Root, the latter being heavily used in CERN. This was done by completing initial tutorials, to then put the skills into practice analysing the collision data from ATLAS. Once all analysis was complete, I had to present my findings to my supervisors and fellow students.

The trip was beneficial to me in many ways. Personally, it was very enjoyable and interesting to spend a lengthened time in a foreign environment, where I had to take on the challenge of leaving my comfort zone and adapting to life while working through the week. I also met many international people on similar courses to me, which gave me extra initiative to learn new languages, as well as the Portuguese I was picking up daily. For my skills as a scientist it was hugely beneficial too; I learned to use important coding programs to conduct analysis, as well as learning from the advice of my highly skilled and intelligent supervisors and experiencing the day-to-day functions of a modern laboratory facility. I am confident that these gained skills will help me in the future; with further study as well as future employment.

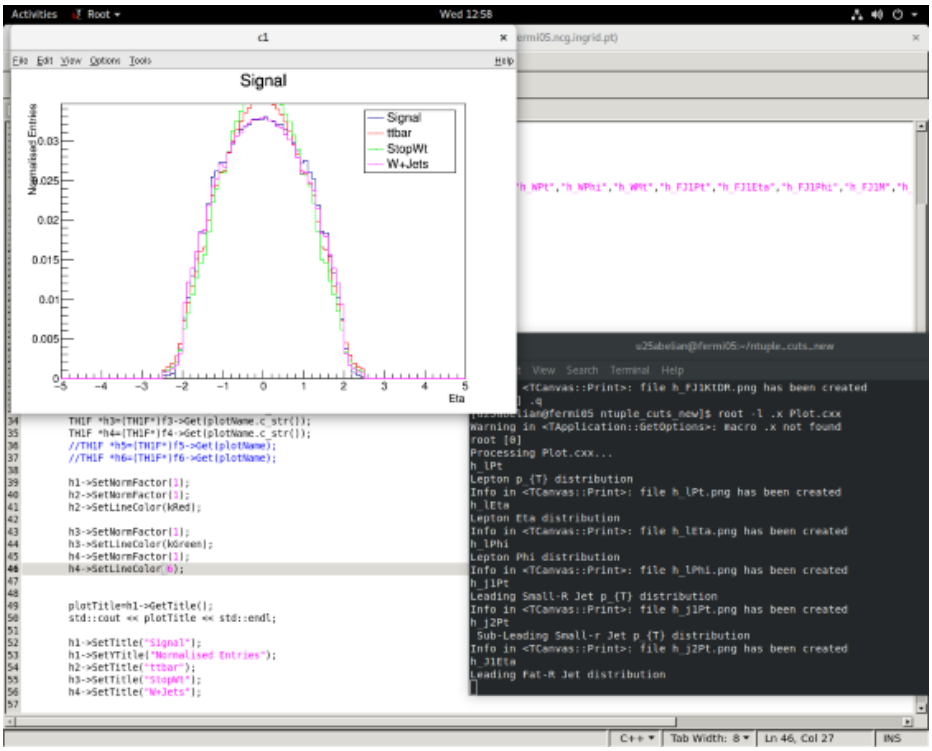

Figure 1-An example of a signal histogram overlapped with the backgrounds and code involved for their creation