My name is Thomaz Pougy, I am 21 years old and I study electrical engineering in the Polytechnic School of the University of Sao Paulo (USP), Brazil. The most recognized University in Latin America.

In the last 9 months I have been working in a scientific initiation project, oriented by Professor Pedro Luiz Pizzigatti Corrêa, about “Computational Tools to Treat Data Quality for Data Acquired by Aerosol Sensors”, financed by Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq) (National Counsel of Scientific and Technological Development).

The project is part of a research group led by Professor Pedro and associated with the Atmospheric Physics Laboratory of the Physics Institute of the University of Sao Paulo (LFA-USP). This facility is the house of Professor Paulo Artaxo, leader of the G.O. Amazon project and international reference in aerosol, weather and climate research.

The research group studies all the aspects of data management for climate data, in the context of open data. In particular, my project studies computational tools to treat data quality for data acquired by aerosol sensors. Besides that, the research group, mainly my project, has the institutional collaboration of the Atmospheric Radiation Measurement Climate Research Facility - USA (ARM).

Therefore, the main objective of my project is to study the current scenario for data treatment used in LFA-USP, compare it with the best methods used in ARM to purpose practices and guidelines that will improve the workflow in the research, management and distribution of data.

It is worth mentioning that the group activities are not restricted to the academic research, it also includes the organization of workshops and seminaries that involves the whole climate and weather academic community in Brazil. Those events aim to present scientists and researchers the progress we have made in our group research and to introduce them to new methods and strategies which can be used in their work, such as Jupyter Notebook usage, data visualization libraries in python and parallel computing topics.

Some days ago, I received an e-mail from a professor I met in a seminary about data management presenting me The Summer School on Effective HPC for Climate and Weather. When I read the information about the event contained in the website, I was delighted. All the topics that will be covered in the event could be really helpful not only for my project but also for the whole climate and weather community here in Brazil. Actually, the topics “Computing”, “Storage”, “Data Analytics” and “Supporting Tools” match exactly with the subjects focused in the research group.

The overview of the event combined with the experience I have gained in my research when talking to brazillian atmospheric scientists, led me to think that a good tentative idea for a project to work as an Academic Group Project is to design and deploy an online platform for data ingestion and data discovery on the context of climate and weather data.

In this platform, scientists would be able to upload their time series data from various sensors and, in the future, others could use filtering tools to find the data they need in their research and also view some quick plots to evaluate the data quality efficiently before downloading the files.

Finally, considering that:

- My scientific initiation project and research group studies would be directly beneficiated from the topics learned in the event;
- I would act as a multiplier in the climate and weather scientific community in Brazil in workshops and seminaries about the topics learned in the event;
- The research group on data management that I’m part of is willing to collaborate internationally on papers publications.

My participation in the event would be beneficial for both the event and the research group I’m part of. Not only this, it would be an important step for the progress on data management for the hole Brazilian climate and weather scientific community.

Thomaz Pougy