

## **Classifying aerosols with machine learning techniques using the AERONET and CALIPSO satellite databases**

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In this work, our intention is to develop ways to correlate and classify several types of aerosols, by practical and objective manners, with the aim of machine learning techniques (specially decision trees and random forests) [1, 2]. For this purpose, we are intended to use the AERONET (Aerosol Robotic Network) and CALIPSO (Cloud-Aerosol Lidar and Infrared Pathfinder Satellite Observations) satellite databases [3]. The AERONET database, which includes measurements made since year 2000, will provide to us a reference standard for the categorization and classification of aerosols present in atmosphere [3]. Following this, the databases for the measurements made by the CALIPSO satellite will be addressed, also with the objective of categorizing and classifying aerosols. Such data mining processes will enable us to carry out statistical and climatological analyzes of these databases, allowing a better study of the atmospheric behavior of aerosols in the Earth's atmosphere [4]. We believe that the development of such tools and techniques for treatment of data provided by AERONET and CALIPSO will contribute greatly to a better understanding of climate change processes on Earth, a subject of scientific interest, especially in recent years.

### **References**

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