

DeepCube

Explainable AI pipelines for big Copernicus data

Copernicus services for sustainable and environmentally friendly tourism



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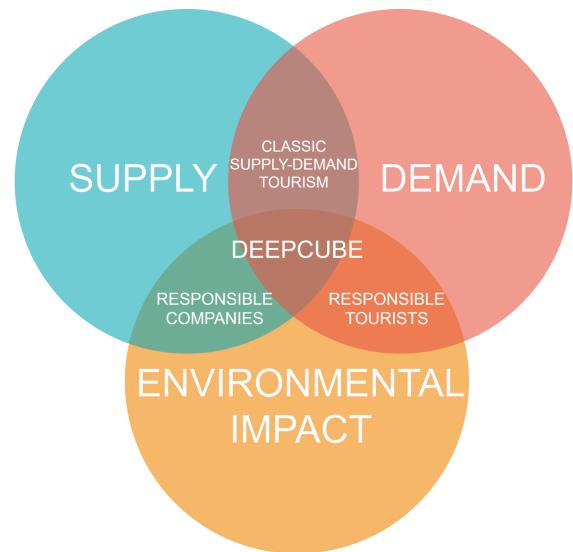
Use Case motivation

Tourism is one of the pillars of the modern economy. It accounts for 10% of GDP with an annual growth of 3%. Despite 2020, where tourism has been hit hard by COVID-19, it is expected to reach a value of 2 trillion international tourists by 2030. On the other hand, planet earth is facing a serious problem of pollution, climate change and resource depletion. The motivation of this Use Case is to reduce the impact of tourism on planet Earth by implementing a business system based not only on supply-demand, but also on environmental impact.



Use Case objectives

DeepCube aims to develop a pricing engine for hotel rooms and tour packages independent from the major reservation platforms and incorporating the environmental dimension and sustainable tourism. This will be achieved with the characterization of the present environmental conditions such as human pressure, water pressure, air quality, ecological potential, and tourism attractivity using Copernicus data, and of the present demand using social media data. Being able to measure the real impact of a tourism package on the environment makes it possible to give environmentally committed tourists more sustainable alternatives to their trip.



The DeepCube approach

The DeepCube platform will allow the use of Machine Learning architectures, fed with EO and non-EO data, to compute the forecast of the environmental state as well as the compensation price of such a trip. This tool will be the first tool on the market to calculate the environmental impact of a tourist trip with satellite data, with the capacity to expand globally. The tool will be tested by Terra Nordeste, a tourism agency whose business model is based on tailor-made trips throughout Brazil.

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