Assignment 3 - Project Proposal:

Project Idea:

Possible data to explore:

Dataset	URL
IceCube - Neutrinos in Deep Ice	https://www.kaggle.com/competitions/icecube-neutrinos-in-deep-ice/data?select=sensor_geometry.csv
Sloan Digital Sky Survey	Data Release 18 - SDSS

In this project, we attempt to correlate positional data of astronomical events (such as gravitational wave data, neutrino bursts) with other astronomical records such as galaxy catalogs. Post-correlation, we will limit our purview to the celestial bodies that have been identified as sources of these phenomena and attempt to draw inferences/trends, such as associations between certain types of astronomical phenomena and specific regions or types of galaxies.

The project can be described as a big data endeavor due to the vast volumes of data involved in both astronomical events and galaxy catalogs. Gravitational wave data and neutrino bursts generate immense amounts of information, often recorded by sophisticated instruments like telescopes and detectors. Additionally, galaxy catalogs encompass extensive datasets containing information on the positions, properties, and relationships of millions of celestial objects. Analyzing these datasets requires powerful computational resources and sophisticated data processing techniques to extract meaningful insights and correlations, making it a significant big data project in the field of astronomy.

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