Galactic Astral Identification

In astronomy Astral classification refers to the classification of stars based on their spectral characteristics. Among the most fundamental concepts in astronomy is the classification scheme for galaxies, quasars, and stars. Cataloguing the stars and the distribution in the sky led to the understanding that they are the building blocks of our galaxy, and once the distinction was made that Andromeda was a separate galaxy, a large number of galaxies began to be surveyed as more powerful telescopes were built. This datasat aims to classificate stars, galaxies, and quasars based on their spectral characteristics.

Your Task is to build a Machine Learning Model that predicts to which class of stellar an existing star belongs to.

The data consists of 100,000 observations of space taken by the SDSS (Sloan Digital Sky Survey). Every observation is described by 16 feature columns and 1 class column which identifies it to be either a star, galaxy or quasar.

* alpha = Right Ascension angle (at J2000 epoch)
* delta = Declination angle (at J2000 epoch)
* u = Ultraviolet filter in the photometric system
* g = Green filter in the photometric system
* r = Red filter in the photometric system
* i = Near Infrared filter in the photometric system
* z = Infrared filter in the photometric system
* run\_ID = Run Number used to identify the specific scan
* rereun\_ID = Rerun Number to specify how the image was processed
* cam\_col = Camera column to identify the scanline within the run
* field\_ID = Field number to identify each field
* spec\_obj\_ID = Unique ID used for optical spectroscopic objects (this means that 2 different observations with the same spec\_obj\_ID must share the output class)
* class = object class (galaxy, star or quasar object)
* redshift = redshift value based on the increase in wavelength
* plate = plate ID, identifies each plate in SDSS
* MJD = Modified Julian Date, used to indicate when a given piece of SDSS data was taken
* fiber\_ID = fiber ID that identifies the fiber that pointed the light at the focal plane in each observation