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Title:	Model Independent analysis of cosmological parameters
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Abstract:	The primary aim of the project is to explore the methods of deducing cosmological methods directly from the observational data without assumptions about their nature. To achieve this, we analyse one of the non-parametric techniques known as - The Gaussian Processes, on the Hubble Parameter Data set and the Pantheon Data Set and discuss the valuable insights that we can obtain from the method. The project also envisages the goal of primarily analysing the impact of some of the factors affecting the Gaussian Process, including the effect of changing the number of input data points and the impact of error sizes introduced in the data points. Further, they will also be analysed for three types of kernel matrices, namely the Radial Basis Function, the Mat érn (3/2) and the Mat érn (5/2). The complete analysis of the Gaussian Processes will be first conducted on the simulated data set for both Hubble Parameter vs Redshift and the Distance Modulus vs Redshift, where we study the ability of the process to accurately predict the mean values of the data points for different kernel matrices. Later, we apply the Gaussian Processes to the Real Catalogue Data set for Hubble Parameter and the Pantheon Data Set, where we aim to obtain useful insights from the predicted data points.
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