**Regression**

Another major milestone for statisticians was the regression, which was published by Legendre in 1805 and by Guass in 1809. Legendre and Gauss both applied the method to the problem of determining, from astronomical observations, the orbits of bodies about the Sun, mostly comets, but also later the then newly discovered minor planets. Gauss published a further development of the theory of least squares in 1821. Regression analysis is an essential statistical process for estimating the relationships between factors. It includes many techniques for analyzing and modeling various factors, and the main focus here is about the relationship between a dependent factor and one or many independent factors also called predictors or variables or features. We’ll learn about this more in the fundamentals of machine learning with scikit-learn.

Over time the idea behind the word statistics has undergone an extraordinary transformation. The character of data or information provided has been extended to all spheres of human activity. Let’s understand the difference between two terms quite often used along with statistics, that is, 1) data and 2) method. Statistical data is the numerical statement of facts, whereas statistical methods deal with information of the principles and techniques used in collecting and analyzing such data. Today, statistics as a separate discipline from mathematics is closely associated with almost all branches of education and human endeavor that are mostly numerically representable. In modem times, it has innumerable and varied applications both qualitatively and quantitatively. Individuals and organizations use statistics to understand data and make informed decisions throughout the natural and social sciences, medicine, business, and other areas. Statistics has served as the backbone and given rise to many other disciplines, which you’ll understand as you read further.