A method and apparatus for processing data the data comprising: a set of one or more system inputs; and a set of one or more system outputs; wherein each system output corresponds to a respective system input; each system input comprises a plurality of data points such that at least one of these data points is from a different data source (8 10 12 16 18 20 22) to at least one other of those data points the method comprising: performing a kernel function on a given system input from the data and a further system input to provide kemelised data; and inferring a value for further system output corresponding to the further system input; wherein the step of inferring comprises applying a Gaussian Process to the kemelised data. The data sources (8 10 12 16 18 20 22) may be heterogeneous data sources.