

**Abstract:**

Monotonic regression (MR) is a statistical method that is designed especially for applications in which the expected value of a response variable increases or decreases with a vector of predictors. The method has applications in medicine, economics, engineering and many other areas. In this talk, the methods that are suitable for fitting large data, i.e. data with over 100,000 observations, will be presented. When confidence bands are estimated for the MR models derived from such large data, traditional statistical procedures used for statistical inference (such as bootstrap or jackknife) can be prohibitively expensive in terms of the CPU time, and a strategy making them feasible will be suggested. In addition, some other statistical issues, such as model selection for MR, will be considered.