

Title: Introduction to Nonparametric Methods

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Abstract: The aim of this thesis is to introduce basic nonparametric methods. Nonparametric methods embrace a large class of statistical procedures which do not assume specific data distribution such as normal distribution. They often represent the only available means of examining specific types of data, for example ranks or counts. Weaker assumptions of these methods make them less powerful than their parametric counterparts.

This thesis describes in detail four nonparametric tests- the Ordinary Sign Test, the Wilcoxon Signed-rank Test, the Mann-Whitney Test and finally the Two-sample Wilcoxon Test. The structure of their description will entail the following: the formulation of assumptions, null hypothesis and alternatives, the construction of the test statistic and the definition of rejection regions. The most essential problems, such as the problem of ties, will be also covered. The basic characteristics of the Linear Rank Statistics will be also explained, followed by the Two-sample Wilcoxon test.

Keywords: nonparametrical, hypothesis, ranks, consistency, statistic