THE UNIVERSITY OF CHICAGO

Department of Statistics

MASTER'S THESIS PRESENTATION

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Large Scale Multiple Testing for Clustered Signals

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Eckhart 117, 5734 S. University Avenue

ABSTRACT

We consider the problem of large scale multiple testing for locally clustered signals. We apply techniques from change point detection and proposed a testing procedure on the original data. Our algorithm is easy to operate and has greater potentials than the existing approaches based on p-values. Starting from one sequence case, we study the test with independent as well as dependent series. Extensions of the method are made for multiple sequences case where heteroscedasticity is allowed. Simulation studies suggest that our method perform well under realistic sample sizes and demonstrate an improved detection ability compared to competing algorithms.

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