ABSTRACT

Applied *Robust Regression On Ordered Statistics* (ROS) method to Left Censored Data with Outlier (Case Study to Predicts Patient Age Onset to *Repetitive Strain Injury*)

Robust Regression is the regression method that used if distribution from error abnormal and or some outlier that affected to model. This method is important tool to analyze data that affected by outlier with the result model that robust or resistant to outlier. Resistant estimate relatively not influence by large change on little part of data or little change on large part of data.

Some estimation method in robust regression are M-*estimation, Least Trimmed Square* (LTS), MM *estimation*, S-*estimation* and *Least Mean Square* (LMS). This research use *M-Estimation* and *Least Trimmed Square* (LTS) estimation method. Best method determine with compare value of determination coefficient and value of Sum of Square Error (SSE) at approach that used.

With founding best method to this robust regression could be predict patient age of onset to repetitive strain injury. Commonly, RSI patient don't know when the onset of RSI. Variables that used to find model are patient age of onset when diagnosed RSI and work duration.

Base on analysis results, was found that the best model to predict patient age of onset to Repetitive Strain Injury is: $\hat{Y} = -8{,}0283 + 1{,}2751\ X1$. This best model found with *Least Trimmed Square* (LTS) approach.

Keywords: age of onset, work duration, RSI, Robust regression