

## **ABSTRACT**

**THESIS:** A Least Deviation Approach for Credibility Estimation: An Alternative Approach to Bühlmann's Credibility.

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All previously derived univariate measures of credibility are much affected by outlier(s) and their multivariate or hierarchical or regression counterparts on the other hand, fail to cope with the observations of non-normal populations. All of them considered traditional measure of risk (that uses the squared error loss function) and variance (or, standard deviation) that fail to capture fully the "true dispersion" of the data for estimating credibility. Moreover, maximum of the credibility estimators are based on normality approximations of the parent population of the data.

Attempts have been made here to find new robust measures of credibility which are based on all observations and one dimensional dispersion measures. These measures are useable to any loss distribution irrespective of shape of that distribution (symmetric and/or asymmetric loss distribution) and are less affected by outlier(s) and/or extreme observation(s).