

# An adaptive fuzzy regression model for the prediction of dichotomous response variables

## Abstract

This paper proposes an adaptive technique in the prediction of dichotomous response variable by combining fuzzy concept with statistical logistic regression. The model was tested on an oral cancer dataset in predicting oral cancer susceptibility. In this paper we will present the development, evaluation and validation of the proposed model based on the experiment carried out. Explanatory power of the adaptive model was calculated and compared with fuzzy neural network and statistical logistic regression models using calibration and discrimination techniques. Area under ROC values calculated indicates that the proposed model has compatible predictive ability to both fuzzy neural network and statistical logistic regression models.

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