# Training a Neural Network Using Input Dropout with Aggressive Reweighting (IDAR) on Datasets with Many Useless Features

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**Abstract :** This paper presents a new algorithm for neural networks called "Input Dropout with Aggressive Re-weighting" (IDAR) aimed specifically at datasets with many useless features. IDAR combines two techniques (dropout of input neurons and aggressive re weighting) in order to eliminate the influence of noisy features. The technique can be seen as a generalization of dropout. The algorithm is tested on two different benchmark data sets: a noisy version of the iris dataset and the MADELON data set. Its performance is compared against three other popular techniques for dealing with useless features: L2 regularization, LASSO and random forests. The results demonstrate that IDAR can be an effective technique for handling data sets with many useless features.