Prediction of Subscription to Term Deposits and Clustering of Bank Customers using Artificial Neural Networks

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I'm going to use the Bank Marketing Dataset for the coursework of Artificial Neural Networks. I'm going to perform clustering and predict Term Deposit subscriptions of bank customers using Artificial Neural Networks. When a customer deposits his money in a financial institution for a fixed amount of time which is predefined, it is known as a Term Deposit. Customers cannot withdraw their money during this fixed period of time and this time can last from a couple of months to a few years.

The dataset is obtained from Kaggle. It is known as the Bank marketing dataset. The dataset was uploaded originally in the UCI Machine Learning Repository which contains around 40000 instances of data. The Kaggle Bank Marketing dataset is modified from the original dataset. The Kaggle Bank Marketing dataset contains **11162** instances and **16** features. The features of the dataset represent professional and personal information of the customers and their recent interactions with the bank.

I will apply different Artificial Neural Networks on the dataset to perform clustering and later predict the outcome as yes(1) or no(0). Where 'yes' and 'no' refer to the customer subscribing to the Term deposit or not. Clustering is done keeping in mind its use further in the future if the bank needs to target a specific audience to design new schemes. After performing the above mentioned tasks, I will measure the performance of different Artificial Neural Network techniques on these tasks.

Dataset URL - https://www.kaggle.com/janiobachmann/bank-marketing-dataset

Dataset Source - [Moro et al., 2014] S. Moro, P. Cortez and P. Rita. A Data-Driven Approach to Predict the Success of Bank Telemarketing. Decision Support Systems, Elsevier, 62:22-31, June 2014