Abstract

Computational Advertising is the currently emerging multidimensional statistical modeling sub-discipline in digital advertising industry. Web pages visited per user every day is considerably increasing, resulting in an enormous access to display advertisements (ads). The rate at which the ad is clicked by users is termed as the Click Through Rate (CTR) of an advertisement. This metric facilitates the measurement of the effectiveness of an advertisement. The placement of ads in appropriate location leads to the rise in the CTR value that influences the growth of customer access to advertisement resulting in increased profit rate for the ad exchange, publishers and advertisers. Thus it is imperative to predict the CTR metric in order to formulate an efficient ad placement strategy. This paper proposes a predictive model that generates the click through rate based on different dimensions of ad placement for display advertisements using statistical machine learning regression techniques such as multivariate linear regression (LR), poisson regression (PR) and support vector regression (SVR). The experiment result reports that SVR based click model outperforms in predicting CTR through hyperparameter optimization.
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**Index Terms**

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**Keywords**

ad campaign metrics, click through rate, display advertisements, prediction.