

Using Neural Networks for Click Prediction of Sponsored Search

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Abstract : Sponsored search is a multi-billion dollar industry and makes up a major source of revenue for search engines (SE). Click-through-rate (CTR) estimation plays a crucial role for ads selection, and greatly affects the SE revenue, advertiser traffic and user experience. We propose a novel architecture of solving CTR prediction problem by combining artificial neural networks (ANN) with decision trees. First, we compare ANN with respect to other popular machine learning models being used for this task. Then we go on to combine ANN with MatrixNet (proprietary implementation of boosted trees) and evaluate the performance of the system as a whole. The results show that our approach provides a significant improvement over existing models.

Keywords : neural networks, sponsored search, web advertisement, click prediction, click-through rate

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