TopicMachine: Conversion Prediction in Search Advertising using Latent Topic Models

Abstract:

Search Engine Marketing (SEM) agencies manage thousands of search keywords for their clients. The campaign management dashboards provided by advertisement brokers have interfaces to change search campaign attributes. Using these dashboards, advertisers create test variants for various bid choices, keyword ideas, and advertisement text options. Later on, they conduct controlled experiments for selecting the best performing variants. Given a large keyword portfolio and many variants to consider, campaign management can easily become a burden on even experienced advertisers. In order to target users in need of a particular service, advertisers have to determine the purchase intents or information needs of target users. Once the target intents are determined, advertisers can target those users with relevant search keywords. In order to formulate information needs and to scale campaign management with increasing number of keywords, we propose a framework called TopicMachine, where we learn the latent topics hidden in the available search terms reports. Our hypothesis is that these topics correspond to the set of information needs that best match-make a given client with users. In our experiments, TopicMachine outperformed its closest competitor by on predicting total user subscriptions.