TECHNOLOGY

HyperCubeMap: Optimal Social Network Ad Allocation Using Hyperbolic Embedding

OVERVIEW

Background

Social networking sites (SNS) such as Facebook, Twitter, and others have increasingly become a popular advertising platform for marketers. Advertisers bid for a target group of users' action, most often for the number of impressions, and pay using per-per-mille billing policy (per one thousand impressions). The problem arises when the agents, SNS in most cases, are trying to maximize their own revenue while respecting advertisers' wishes and trying to maximize value for them. Influence maximization strategy strives to allocate ads to the users that not only belong to a specific target market (age, gender, geographic area etc.), but select a subgroup of such users who are most likely to engage with the ad, thus maximizing the value to the advertisers and revenue for the agents.

Innovative Technology

Researchers at the University of Maryland have developed HyperCubeMap, an optimal SNS ad allocation system, which uses hyperbolic embedding to successfully reduce the dimentionality and complexity of the optimization and enables application in real world SNS with billions of users. This method reduces the dimentionality of the original problem significantly, runs 2x-4x times faster and reaches 95% of the optimum ad allocation.

APPLICATIONS

· Social networks
· Online advertisers

ADVANTAGES

· 95% ad optimization
· 2x-4x faster

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Additional Information

INSTITUTION

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PATENT STATUS

Pending

EXTERNAL RESOURCES

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