**Network Traffic Enhancement Through Proactive Caching By Mining Mainstream Media**

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**Abstract**

The objective of our project is to predict network traffic by mining news articles. The main slogan of the media 'give people what they want' gives us assumption articles will always reflect the most popular topics in the society at a given time, thus it is interesting to observe the relation between mainstream media and user behavior online. Under the influence of media, users browse videos related to the popular topics. Internet Service Provider (ISP) can take advantage of this trend and pre-cache highly popular videos to reduce the overall traffic and improve the customer experience. Topic modeling has been an active research area for the past few years. We chose to use latent Dirichlet allocation (LDA) for the purpose of evaluating topic popularity and frequent pattern mining algorithm to form the topic titles. After discovering popular topics, we can download and pre-cache related videos at the strategic nodes. The experimental results show our proactive pre-caching method can achieve better performance in terms of reducing the overall delay, compared to other conventional caching methods.