

# Profiling Users from Online Social Behaviors with Applications for Tencent Social Ads

Ching Law  
Shenzhen, China  
chinglaw@tencent.com

## ABSTRACT

QQ and Wechat are the two largest instant messaging & social networks in China. Tencent Social Ads is the advertising platform for both Wechat and QQ, serving over 10B page views per day for several hundred million users.

We strive to understand as much as possible on our users' characteristics, so as to serve the best personalized ads for them. The rich user behaviors on Tencent's diverse products lay a foundation in our user profiles on many dimensions, including demographics, interests, intents, transactions, physical locations, and devices, etc.

In this talk, we will share our experience in large scale user data mining based on online social activities. We will discuss the challenges we face and the solutions we have devised so far.

- Some demographics data are obtained from user input, and thus would have gaps in both accuracy and coverage. We discuss the techniques in calibrating and verifying these data.
- We infer user interests from their social behaviors. For example, most QQ groups are not labelled properly, but by applying a large-scale topic model on the QQ memberships, we can effectively classify most QQ groups into an interest taxonomy. We also infer user interests from user's physical location check-ins and uploaded photos.
- User data can be collected from many diverse sources, including behaviors in various Tencent products, click and conversion in ad platform, and even seed customers collected by advertisers. We'll discuss the systems to merge these diverse data to provide a coherent view for our advertisers.

- High quality user labels are usually sparse. We implemented an algorithm for advertisers to reach more potential customers through user similarity computation based on user features as well as social graph inferences. We'll describe the system's contributions to ads quality.
- Top advertisers demand rich audience targeting solutions in combination of their own customer data, Tencent data, and possibly 3rd-party data. We'll discuss the data exchange platform that can facilitate collaborative applications with 3rd-party DSPs and DMPs.

## Keywords

Advertising Technology; Audience Targeting; Social Networks;

## Bio

Ching Law is General Manager of Social & Performance Ads Department at Tencent, overseeing engineering, marketing, operations, and products. Ching is instrumental in the development of GDT, the data and technology platform for Tencent Social Ads.

Ching has over ten years of experience in digital marketing and online advertising systems. Before joining Tencent in 2012, Ching worked at Google for eight years, where he led multiple audience & contextual targeting projects in AdSense, Google dictionary and Cantonese input system.

Ching received his Ph.D. in Computer Science from Massachusetts Institute of Technology.

Permission to make digital or hard copies of part or all of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. Copyrights for third-party components of this work must be honored. For all other uses, contact the Owner/Author.

Copyright is held by the owner/author(s).

*KDD '16, August 13-17, 2016, San Francisco, CA, USA*

ACM 978-1-4503-4232-2/16/08.

<http://dx.doi.org/10.1145/2939672.2945368>