A Survey on Personalized Travel Sequence Recommendation on Multi-Source Big Social Media

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ABSTRACT: The benefits of big data increasingly both research area and industrial area such as health care, finance services, marketing, etc. In this paper, the big data is for travelling recommendation for both travelogues and community contributed photos and check in data, this data are access from the social media like facebook. Compare to all existing travel recommendation approaches so find out the our travel recommendation approach is not only personalized to users travel interest but also able to recommend a travel sequence rather than individual point of interest. The topical packages is given and in this package contain a topical interest, cost, time, season for to recommend the point of interest. So, at recommend time, first mined the famous routes are ranked according to the similarity between user package and route package and then top ranked route are further optimized by social similar user travel records. In this paper the photos and data are covering in 9 cities.

KEYWORDS: travel recommendation, geo-tagged photos, social media, multimedia information retrieval.

I. INTRODUCTION

In research area and industry area both are faced the problem of automatic travel recommendation such as big media, social media,, they provides many offers for to address many challenging problems for travel recommendation, gps estimation and instance[1][2][3]. The travel websites provides the offer of rich description of landmarks and travelling experiences of other users written by them.

There are two main challenges of automatic travel recommendation, so first challenge is recommendation POIs should be personalized to user interest means different users may prefer to different types of POIs. Second challenge is the recommended is a sequential travel route rather than individual POIs. Existing system on travel recommendation mining only famous travel POIs and routes are included of big social media ,gps trajectory, check-in-data and blog. So general travel route mining cannot well for the user's personal requirements means they cannot matched them and personalized travel recommendation recommend the POIs and mining the routes by users travel records.

In existing system measured a two challenges and they haven't solve this two challenges, first is the travel recommendation work only focus on user topical interest mining but without considering other attributes. Second challenge is only focused on famous cities but without automatically mining user travel interest. So to solve the above challenges problems proposed a Topical Package Model (TPM), they mined the automatically travel interest from two social media, other attributes and travelogues.

There are the two module is given first is offline module, what happened in offline module, topical package is mined from social media combining travel and community contributed photos. Mined the POIs and famous route from photos and obtain routes package from mapping travelogue. And second module is online module, they have focused on the mining user package and recommending personalized POIs sequence based on user package.

II. MOTIVATION

Many studies have performed on the travel recommendation system but they not automatically mined the POIs by users side on social media, They only recommended the famous city routes and travelogues. Moreover, they do not recommend on all route mined they only mined the famous city route and travelogues. So many challenges are

generated on users mind for travel recommendation, so the solution of this challenges are address to proposed a Topical Package Model(TPM), contain a methods to automatically mine user travel interest from two social media. To address of user challenges consider the users topical interest and preference of visiting time and season.

III. LITERATURE SURVEY

1. Shuhui Jiang, XuemingQian , Tao Mei and Yun Fu "Personalized Travel Sequence Recommendation on Multi-Source Big Social Media" in 2016.
    This paper proposed a personalized travel sequence recommendation system by learning topical package model from big multi-source social media: travelogues and community contributed photos. The advantage is The system automatically mined user's and routes' travel topical preferences including the topical interest, cost, time and season. We recommended not only POIs but also travel sequence.

2. JungeShen, JialieShen, Tao Mei, and XinboGao," Landmark Reranking for Smart Travel Guide Systems by Combining and Analyzing Diverse Media" in 2016.
    Presented a novel query-dependent landmark ranking system based on heterogeneous travel information fusion to facilitate a smart travel guide. The proposed system gets the initial ranking list of landmarks via text matching. The advantage is, maximize the satisfaction and minimize the information load. Less efficiency is a disadvantage of this paper

3. Shuhui Jiang, XuemingQian, JialieShen, Yun Fu, and Tao Mei," Author Topic Model-Based Collaborative Filtering for Personalized POI Recommendations" in 2015.
    The basic concept is an author topic model-based collaborative filtering (ATCF) method is proposed to facilitate comprehensive points of interest (POIs) recommendations for social users. The advantage similar travel topics are shared. The disadvantage is, dataset is small Only textual information of geo-tagged is given.

4. HuijiGao, Jiliang Tang, Xia Hu, and Huan Liu, "Content-Aware Point of Interest Recommendation on Location-Based Social Networks," in 2015.
    The basic concept is study the content information on LBSNs with respect to POI properties, user interests, and sentiment indications. Model the three types of information under a unified POI recommendation framework with the consideration of their relationship to check-in actions. The advantage is, user behavior, and demonstrates its power to improve POI recommendation performance on LBSNs. And the disadvantage is contain only small dataset.

5. Quan Yuan, Gao Cong, Aixin Sun, "Graph-based Point-of-interest Recommendation with Geographical and Temporal Influences" in 2014.
    Focus on the problem of time-aware POI recommendation, which aims at recommending a list of POIs for a user to visit at a given time. To exploit both geographical and temporal influencesin time-aware POI recommendation. Advantage is real world dataset and the disadvantage is taken a more time.

6. Jing Li, XuemingQian, Yuan Yan Tang, Linjun Yang, and Tao Mei," GPS Estimation for Places of Interest From Social Users' Uploaded Photos" in 2013.
    The basic concept is an unsupervised image GPS location estimation approach with hierarchical global feature clustering and local feature refinement. Consist of two parts: offline system and online system. The advantage is reduced computation time. The disadvantage is in online system data should be not secured.

7. Yang Ji, Chunhong Zhang, ZhihaoZuo, Jing Chang," Mining User Daily Behavior Based on Location History" in 2012.
    The basic concept is to mine user daily behavior based on a user's location history. Time- clustering-based behavior analysis (TCBA) is proposed to model each individual's location history and mine the regularity in daily activities. The advantage is specified time is mentioned. The disadvantage time based analyzing location history.

8. Huagang Yin, Changhu Wang, Nenghai Yu, Lei Zhang," Trip Mining and Recommendation from Geo-tagged Photos" in 2012.
   A path search system to facilitate tourists' trip planning, not only where to visit but also how to visit. The advantages is time consuming and the disadvantage is the given path is not given to all cities. Means the information is incomplete.
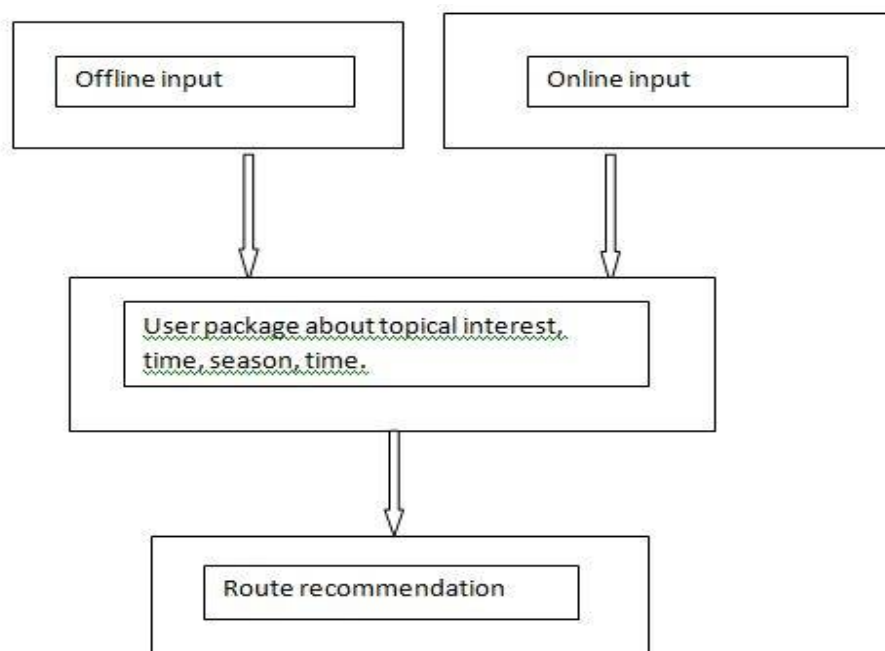
IV. SYSTEM ARCHITECTURE

Fig.1 System architecture of travel recommendation

In above diagram, the architecture of TPM are explained, above system proposed the personalized POI sequence recommendation system which could automatically mine users travel attribute such as interest, time, cost and season.
   In user topical package model means user package is mapping the photos of tags by user and contain a user topical interest distribution, user computation capability, preferred travel time distribution and preferred travel session distribution.
   In route recommendation topical package model is understand from mapping the travelogues related to the POIs on the route to topical package space. Contain route topical interest; route has cost distribution, route time distribution, season distribution. The two modules are given offline module and online module. The offline module are preparing topical package space and mining POI and famous route and there models. The online module is concentrating on mining users travel interest and recommending travel route.

V. CONCLUSION

We have concluded that the TPM system proposed for the travel sequence recommendation from big social media. The advantages of this system are automatically mined users and route travel topical package, recommended not only POIs

but also travel sequence. Mined the ranked famous route based on the similarity between user package and route package. And then optimized the top ranked famous routes according to social similar user's travel records.

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