

# Recommended Users Point of Interest using Social Media

Neha Goliwar<sup>1</sup>, Prof. Mrs. S. S. Bobde<sup>2</sup> and Prof. Mrs. R.A. Patankar<sup>3</sup>

<sup>1,2,3</sup>Department of Computer Science Maharashtra Institute of Technology, Pune  
E-mail: <sup>1</sup>[nhgoliwar7@gmail.com](mailto:nhgoliwar7@gmail.com), <sup>2</sup>[sarika.bobde@mitpune.edu.in](mailto:sarika.bobde@mitpune.edu.in), <sup>3</sup>[ruhi.patankar@mitpune.edu.in](mailto:ruhi.patankar@mitpune.edu.in)

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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 online- offline data and check in data, this data are access from the social media like facebook and twitter. Compare to all existing travel recommendation approaches find proposed 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 package is given and in this package contains 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 we used the 400 places dataset with respect to time, cost, and season and user interest.

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

## 1. 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 users requirements are not fulfilled because of the users interest are not consider, only famous cities or famous places are recommended for travelling. Some systems

are used only the contributed photos means photos are downloading and used these photos at the time of recommended places. In proposed system this all issues are not required means the proposed system automatically mine the uses point of interest from his social account and then recommended places for travelling. Users are satisfied because of the all requirements are fulfilled with topical interest, time, cost and season. In this system recommended places for travelling. Users are satisfied because of the all requirements are fulfilled with topical interest, time, cost and season. In this system the user's point of interest is recommended from accessing there social media data related with his interest by using ahocorasick algorithm. And also used the collaborative filtering method for sharing the same users data.

## 2. RELATED WORK

Shuhui Jiang, Xueming Qian , Tao Mei and Yun Fu "Personalized Travel Sequence Recommendation on Multi-Source Big Social Media" in 2016, 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. In addition, disadvantage is small dataset. Only famous city are included.[1]. Junge Shen, Jialie Shen, Tao Mei, and Xinbo Gao," 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 disadvantages[2]. Shuhui Jiang, Xueming Qian, Jialie Shen, 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, dataset is small only textual information of geo-tagged is given [3]. Huiji Gao, Jiliang Tang, Xia Hu, and Huan Liu, "Content-Aware Point of Interest Recommendation on Location-Based Social Networks," in 2015, 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 containing only small dataset[4].

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 influences in time-aware POI recommendation. Advantage is real world dataset and the disadvantage is taken a more time[5]. Jing Li, Xueming Qian, 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 [6].

### 3. SYSTEM ARCHITECTURE

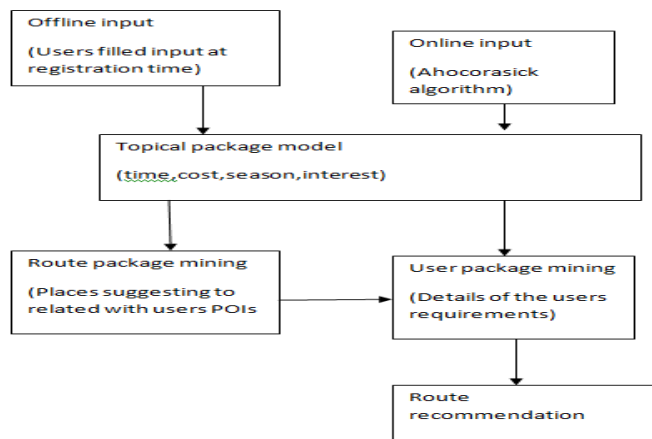


Fig. System Architecture of Travel Recommendation

In above fig, the six types of module are in there. This all modules are used for to mined the users point of interest and then recommended the places. In offline input, the users full fill the data at registration time when they will use first time. In online input, when the data access or fetch from users social account after that use the ahocorasick algorithm for to find out the highest priority of interest to recommended the travelling

places. In topical package model, 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 package mining, after selecting the point of interest, all places are recommended with respect to selecting point of interest and then user select one place according to that list. In user package mining, the user select a specific place with respect to his point of interest and then system providing the overall information of that place means minethe cost, season, time according to the selected place. In route recommendation, the route map is provided.

### 4. ALGORITHM

**Ahocorasick algorithm:-**

**Input:** String related with POI.

**Output:** To get the POI with priority

- Get a string  $x = a_1; a_2; a_3; \dots; a_n$ ;
- where each  $a_i$  is an input symbol and  $a_i$  compared with each other;
- Get a pattern matching machine  $M$  and goto function  $G$ , failure function  $F$ , and output function  $O$ ;
- if input string will be matched to each other so stored the string in function  $O$  as a POIs;
- else, goto failure function  $F$ ;
- And also calculate the priority of output string;
- To get the POIs with priority.

### 5. DATASET

The famous and non famous cities are used for that places recommendation. The national cities are used for recommended. The social media are used for access to point of interest. Facebook data are used to access the users personal point used for access to point of interest.

### 6. EXPERIMENT AND ANALYSIS

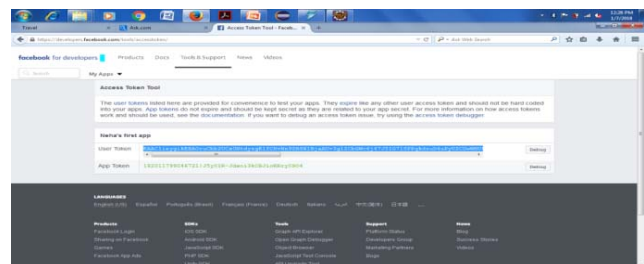


Fig. online data accessing

In above fig, using facebook token online data are access or in other words fetching the online data from facebook.

## 7. CONCLUSION

The benefit of big data is used for other recommendation but in this paper the new concept is here means the proposed system are recommended the places for travelling. The proposed system is very useful and time consuming system for users to find the places easily. The non famous cities are also recommended with there route map, hotels and other information. The data set is large as compare to existing system. One user also see the other users reviews.

## REFERENCES

- [1] H. Liu, T. Mei, J. Luo, H. Li, and S. Li, "Finding perfect rendezvous on the go: accurate mobile visual localization and its applications to routing," in Proceedings of the 20th ACM international conference on Multimedia. ACM, 2012, pp. 9–18.
- [2] J. Li, X. Qian, Y. Y. Tang, L. Yang, and T. Mei, "Gps estimation for places of interest from social users' uploaded photos," *IEEE Transactions on Multimedia*, vol. 15, no. 8, pp. 2058–2071, 2013.
- [3] S. Jiang, X. Qian, J. Shen, Y. Fu, and T. Mei, "Author topic model based collaborative filtering for personalized poi recommendation," *IEEE Transactions on Multimedia*, vol. 17, no. 6, pp. 907–918, 2015.
- [4] J. Sang, T. Mei, and C. Sun, J.T.and Xu, "Probabilistic sequential pois recommendation via check-in data," in Proceedings of ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems. ACM, 2012.
- [5] Y. Zheng, L. Zhang, Z. Ma, X. Xie, and W. Ma, "Recommending friends and locations based on individual location history," *ACM Transactions on the Web*, vol. 5, no. 1, p. 5, 2011.
- [6] H. Gao, J. Tang, X. Hu, and H. Liu, "Content-aware point of interest recommendation on location-based social networks," in Proceedings of 29th International Conference on AAAI. AAAI, 2015.
- [7] Q. Yuan, G. Cong, and A. Sun, "Graph-based point-of-interest recommendation with geographical and temporal influences," in Proceedings of the 23rd ACM International Conference on Information and Knowledge Management. ACM, 2014, pp. 659–668.
- [8] H. Yin, C. Wang, N. Yu, and L. Zhang, "Trip mining and recommendation from geo-tagged photos," in *IEEE International Conference on Multimedia and Expo Workshops*. IEEE, 2012, pp. 540–545.
- [9] Y. Gao, J. Tang, R. Hong, Q. Dai, T. Chua, and R. Jain, "W2go: a travel guidance system by automatic landmark ranking," in Proceedings of the international conference on Multimedia. ACM, 2010, pp. 123–132.
- [10] X. Qian, Y. Zhao, and J. Han, "Image location estimation by salient region matching," *IEEE Transactions on Image Processing*, vol. 24, no. 11, pp. 4348–4358, 2015.
- [11] H. Kori, S. Hattori, T. Tezuka, and K. Tanaka, "Automatic generation of multimedia tour guide from local blogs," *Advances in Multimedia Modeling*, pp. 690–699, 2006.
- [12] T. Kurashima, T. Tezuka, and K. Tanaka, "Mining and visualizing local experiences from blog entries," in *Database and Expert Systems Applications*. Springer, 2006, pp. 213–222.
- [13] Y. Shi, P. Serdyukov, A. Hanjalic, and M. Larson, "Personalized landmark recommendation based on geo-tags from photo sharing sites," *ICWSM*, vol. 11, pp. 622–625, 2011.
- [14] M. Clements, P. Serdyukov, A. de Vries, and M. Reinders, "Personalised travel recommendation based on location co-occurrence," *arXiv preprint arXiv: 1106.5213*, 2011.
- [15] X. Lu, C. Wang, J. Yang, Y. Pang, and L. Zhang, "Photo2trip: generating travel routes from geo-tagged photos for trip planning," in Proceedings of the international conference on Multimedia. ACM, 2010, pp. 143–152.