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Nearest Neighbour Search on Geographical Location with Social Networks

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Abstract— In kNN search on a road network Gr, i.e., a question user q on Gr, has been extensively studied, existing works neglected the very fact that the q's social data will play a very important role during this kNN question. Several real-world applications admire location-based social networking services, need such a question. During this paper we have a tendency to study a replacement problem: kNN search on road networks by incorporating social influence (RSkNN). Specifically, the progressive freelance cascade(IC) model in social network is applied to outline social influence. One important challenge of the matter is to hurry up the social influence over massive road and social networks. To handle this challenge, we have a tendency to propose 3 economical index-based search algorithms, i.e., road network-based (RN-based), social network-based (SN-based) and hybrid compartmentalization algorithms. Within the RN-based algorithmic rule, we have a tendency to use a filtering-and-verification framework for grappling the exhausting downside of computing social influence. Within the SN-based algorithmic rule, we have a tendency to imbed social cuts into the index, in order that we have a tendency to speed up the question. Within the hybrid algorithmic rule, we have a tendency to propose AN index, summarizing the road and social networks, supported that we will get question answers expeditiously. In addition we have a tendency to analyse the feelings on the idea of user comment i.e. positive, negative. And that we get the result on basis of count, likes, dislikes, share, average result. Finally, we have a tendency to use real road and social network knowledge to through empirical observation verify the potency and effectualness of our solutions.

Key words: Road Network, kNN Query, Social Influence

I. Introduction

With the ever-growing quality of mobile device (e.g., smartphones), location-based service (LBS) systems (e.g., Google Maps for Mobile) are wide deployed and accepted by mobile users. The k-nearest neighbor (kNN) search on road networks may be a basic downside in LBS. Given a question location and a collection of static objects (e.g., restaurant) on the road network, the kNN search downside finds k nearest object to the question location. Alone with the popular usage of LBS, the past few years have witnessed a vast boom in location-based social networking services like Foursquare, Yelp, Loopt, Geomium and Facebook Places. Altogether these services, social network users are typically related to some locations (e.g., home/office address and visiting places). Such location info, bridging the gap between world and therefore the virtual world of social networks, presents new opportunities for the kNN search on road networks.

The aforesaid example motivates United States to think about the social influence to a user once process the kNN search on road networks. Specially, a question user q would love not solely retrieving k geographically nearest objects, however get an outsized social influence from q's friends UN agency are to. Therefore, during this paper, we have a tendency to study a completely unique query: kNN search on a road-social network (RSkNN) and propose economical question process algorithms. Specially, Given Gs, Gr and q, the RSkNN search finds k nearest objects (Aq =) to question q's location on Gr, such the social influence SI (or) to Q through q's friends, UN agency are to or, is a minimum of a threshold.

II. Problem Statement

We can rummage around for some reviews of the places in specific class on social media network, the other user from our friend list UN agency had denote the reviews for same class of places are shown because the result however, this result contains random location of knowledge thus, it's troublesome to filter that result for specific location. In Google API we will offer location and search the places with reviews. But, we tend to cannot realize those reviews from folks that square measure renowned to USA. So, we want a system that mix on top of mentioned each system and should offer expected result.

III. Literature Survey

1) Title: Fast probabilistic algorithms for Hamiltonian circuits and matchings.
   – Author: D. Angluin and L. G. Valiant
2) Title: A general framework for geo-social query processing.
   – Author: N. Armenatzoglou, S. Papadopoulos, and D. Papadias
3) Title: Scalable influence maximization for prevalent viral marketing in large-scale social networks.
   – Author: W. Chen, C. Wang, and Y. Wang
4) Title: Scalable influence maximization in social networks under the linear threshold model.
   – Author: W. Chen, Y. Yuan, and L. Zhang
5) Title: Approximation algorithms for NP-Hard problems.
   – Author: D. H. (ed.).

IV. Proposed System

We propose three efficient index-based search algorithms, i.e., road network-based (RN-based), social network-based (SN-based) and hybrid indexing algorithms. In the RN-based algorithm, we employ a filtering-and-verification framework for tackling the hard problem of computing social influence. In the SN-based algorithm, we embed social cuts into the index, so that we speed up the query. In the hybrid algorithm, we propose an index, summarizing the road and social networks, based on which we can obtain query answers efficiently. Finally, we use real road and social network data to empirically verify the efficiency and efficacy of our solutions.

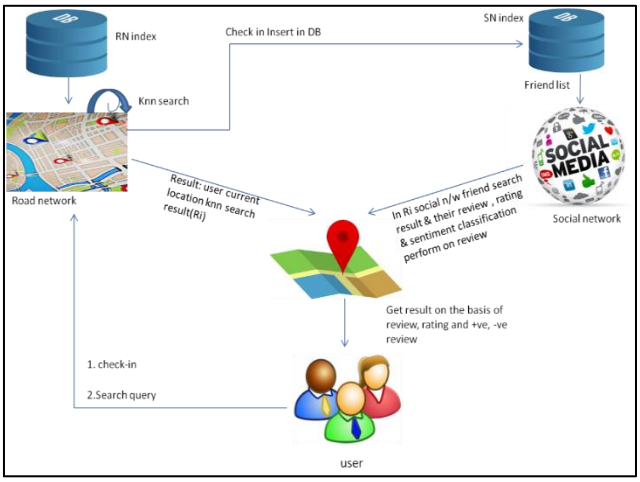

Fig. 1:

V. ALGORITHM

A. *kNN Algorithm*

1) Verify parameter K = range of nearest neighbors
2) Calculate the gap between the query-instance and every one the coaching samples
3) Kind the gap and verify nearest neighbors supported the K-th minimum distance
4) Gather the class Y of the closest neighbors
5) Use straightforward majority of the class of nearest neighbors because the prediction price of the question instance

B. *Sentiment Analysis*

– Get Terms - Reduce each review to the list of words
– Filtering - Remove unnecessary words that will not add value for sentiment analysis is, among, but, and, it, that
– Base Word - Convert all inflections to their root word,fry, fries, fried -> fry,going, go , went, goes -> go, movies, movie -> movie
– Make Features - Use the words thus extracted from a review as features to indicate the positiveness or negativeness of that review
– Classifier - Train a classifier to predict positivity
– Comment Analyzer
– Input: Preprocessed comment
– Output: Comment categorized as positive negative or neutral.
– overallPol: Polarity of the whole comment.
– sentPol: Polarity of the sentence within the comment.
– POS: Part of Speech of the word.

C. *Road Network Index Search Algorithm*

– q <- Query from user U_m, G_s <- user social network position, G_r <- user road netowrk position and Aq <- require answer set for query q
– r is the resultset for query q such that r -> {r1, r2, r3, r4, r5, r6, r7} all answers for q from all users on position (G_s, G_r)
– r_n belongs to r such that r_n is the result set from user U_s such that U_s is present in friendlist of U_m
– E is the threshold distance , k is the maximum number of resultset
– Aq = null
– For each object o_r from r_n then calculate social influence SI for each o_r
– If SI(o_r) > E
– Eliminate o_r
– Else if SI(o_r) < E
– Aq <- Aq + o_r
– Sample(G_s, G_r, q)
– If Aq == k
– Return Aq

D. *Social Network Index Search Algorithm*

Cq is the set of candidates objects
– At starting Cq = null
– If candidate object (o_c) belongs to friend list of User U_m
– If Cq has SI for q
– Cq <- Cq + o_c
– Else
– Eliminate o_c
– Return Cq

VI. IMPLEMENTATION

The system is implemented with 3 main modules social network, road network and integration of social network and road network. The dummy model of social media is same as Facebook on which people can first register and then attach with many other people by signing in and sending friend requests, messages, creating groups and getting notifications. People can give their reviews about various locations where they visit to help their friends find the best place to visit. Location can be any like hospitals, hotels, schools, colleges, ATMS etc. the input is given a location that we need to visit, to the road network using maps, and output is taken from social media as reviews about that location and number of visitors visited at that location .Sentiment analysis is use to classify the given comments as positive and negative and average rating can be calculated for the comments. Statistics is use to give the analysis of comments.

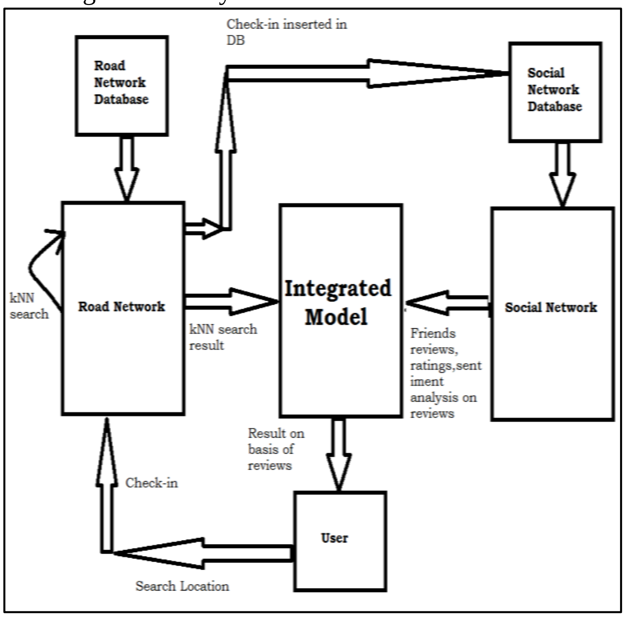

Fig. 2: System Architecture

VII. RESULT

Fig. 3: User Registration

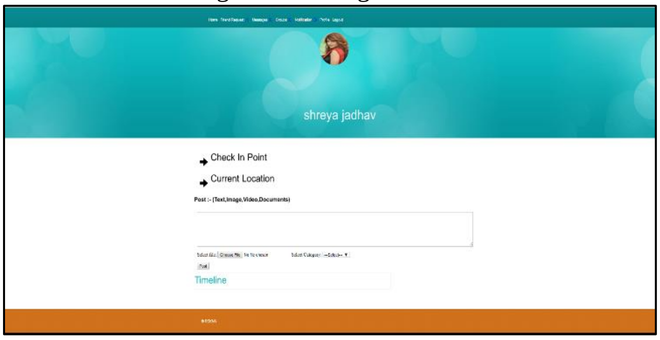

Fig. 4: Social Media(Dummy Model)

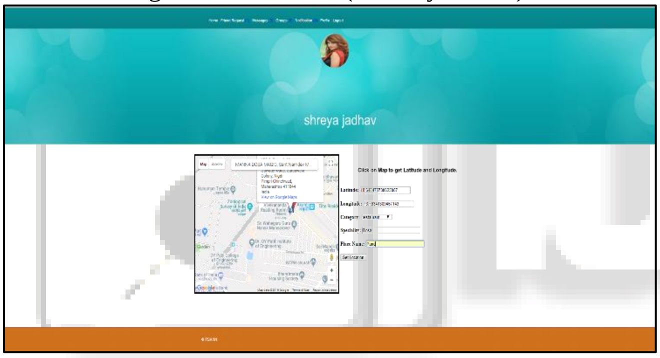

Fig. 5: Check-In

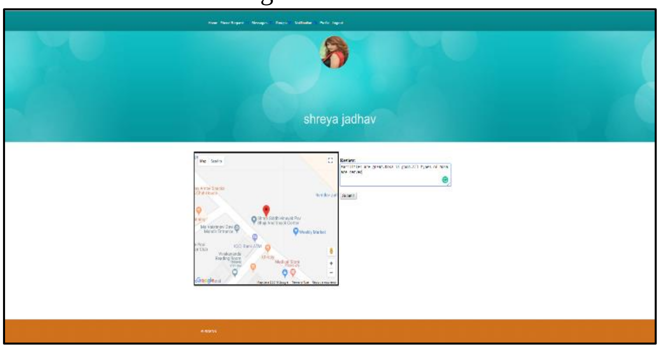

Fig. 6: Reviews about Visited Places

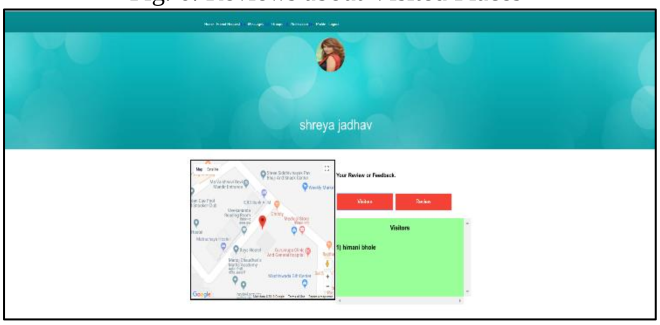

Fig. 7: Visitors

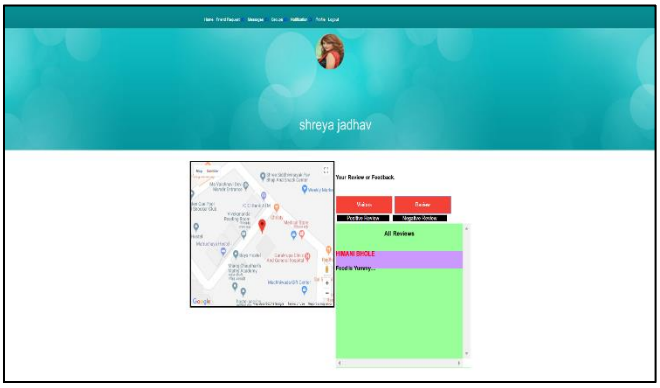

Fig. 8: Reviews of Visitors

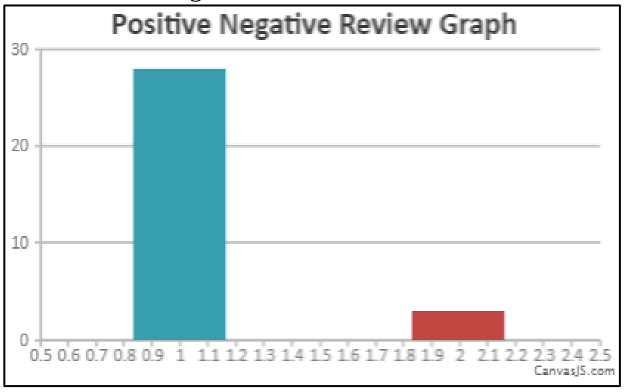

Fig. 9: Graph

VIII. CONCLUSION

In this paper, we've got studied a replacement Problem: kNN search on road-social networks (RSkNN) to realize High potency, we have a tendency to 1st propose a road network based assortment algorithmic rule. During this algorithmic rule, we have a tendency to use a filtering and verification framework to answer the RSkNN question. Next to boost the question performance we have a tendency to style social network based and hybrid assortment algorithms, specifically IS Nand IH. Our most effective algorithmic rule depends on the hybrid index, IH that gives tight bounds for the road social search house.

REFERENCES

[1] R.K.Ahuja Network flows. phD thesis, TECHNISCHE HOCHSCHULE DARMSTADT,1993.
[2] D.Angluin and L.G.Valiant. Fast probabilistic algorithms for Hamiltonian circuits and matchings. In Proc of STOC, 1977.
[3] N.Armenatzoglou,S.Papadopoulos,and D.Papadias.A general framework for geo social query processing.PVLDB,6(10),2013.
[4] W.Chen.C.Wang, and Y. Wang. Scalable influence maximization for prevalent viral marketing in large-scale social networks. In KDD, pages 1029–1038, 2010.
[5] W. Chen, Y. Yuan, and L. Zhang. Scalable influence maximization in social networks under the linear threshold model. In ICDM, 2010.
[6] D. H. (ed.). Approximation algorithms for NP-Hard problems. PWS, 1997.

[7] David Kempe, Jon Kleinberg and Ev ́ a Tardos. Maximizing the Spread of Influence through a Social Network.
[8] Yi Lu, Shiyong Lu, Farshad Fotouhi and.Youping Deng, Susan J. Brown. A Fast Genetic K-means Clustering Algorithm.
[9] Yafei Li, Dingming Wu, Jianliang Xu, Byron Choi, Weifeng Su. Spatial-aware Interest Group Queries in Location-based Social Networks.
[10] Yu Sun, Jianzhong Qi, Yu Zheng and Rui Zhang. K-Nearest Neighbor Temporal Aggregate Queries.
[11] Ruicheng Zhong, Guoliang Li, Kian-Lee Tan, Lizhu Zhou. An Efficient Index for KNN Search on Road Networks.
[12] De-Nian Yang, Chih-Ya Shen, Wang-Chien Lee, Ming-Syan Chen.On Socio-Spatial Group Query for Location-Based Social Networks.
[13] Dingqi Yang, Daqing Zhang, Zhiyong Yu, Zhu Wang. A Sentiment-Enhanced Personalized Location Recommendation System
[14] Mikkel Thorup. Near-optimal fully-dynamic graph connectivity
[15] Masahiro Kimura and Kazumi Saito. Tractable Models for Information Diffusion in Social Networks
[16] Jure Leskovec, Andreas Krause, Carlos Guestrin, Christos Faloutsos, Jeanne VanBriesen and Natalie Glance. Cost-effective Outbreak Detection in Networks
[17] Weimo Liu, Weiwei Sun, Chunan Chen, Yan Huang,Yinan Jing1, and Kunjie Chen. Circle of Friend Query in Geo-Social Networks
[18] Hanan Samet, Jagan Sankaranarayanan, Houman Alborzi. Scalable Network Distance Browsing in Spatial Databases
[19] Mechtild Stoer, Frank Wagner. A Simple Min Cut Algorithm
[20] Dingqi Yang, Daqing Zhang, Zhiyong Yu, Zhu Wang. A Sentiment-Enhanced Personalized Location Recommendation System