**Hierarchical Multi-Clue Modelling for POI Popularity Prediction with Heterogeneous Tourist Information**

**Abstract:**

Predicting the popularity of Point of Interest (POI) has become increasingly crucial for location-based services, such as POI recommendation. Most of the existing methods can seldom achieve satisfactory performance due to the scarcity of POI’s information, which tendentiously conﬁnes the recommendation to popular scene spots, and ignores the unpopular attractions with potentially precious values. In this paper, we propose a novel approach, termed Hierarchical Multi-Clue Fusion (HMCF), for predicting the popularity of POIs. Speciﬁcally, in order to cope with the problem of data sparsity, we propose to comprehensively describe POI using various types of user generated content(UGC) (e.g., text and image) from multiple sources. Then, we devise an effective POI modelling method in a hierarchical manner, which simultaneously injects semantic knowledge as well as multi-clue representative power into POIs. For evaluation, we construct a multi-source POI dataset by collecting all the textual and visual content of several speciﬁc provinces in China from four main-stream tourism platforms during 2006 to 2017. Extensive experimental results show that the proposed method can signiﬁcantly improve the performance of predicting the attractions’ popularity as compared to several baseline methods.

**SYSTEM REQUIREMENTS:**

**HARDWARE REQUIREMENTS:**

* System : Pentium Dual Core.
* Hard Disk : 120 GB.
* Monitor : 15’’ LED
* Input Devices : Keyboard, Mouse
* Ram : 1 GB

**SOFTWARE REQUIREMENTS:**

* Operating system : Windows XP/UBUNTU.
* Implementation : NS2
* NS2 Version : 2.28
* Front End : OTCL (Object Oriented Tool Command  Language)
* Tool : Cygwin (To simulate in Windows OS)