

# Personalized tour recommender based on geotagged photo mining

Student : Gerardo M. Paniagua Chamorro

Advisor : Dr. Chieh-Yuan

Institute of Industrial Engineering and Management  
Yuan-Ze University

## ABSTRACT

In this thesis, we propose a tour recommendation system that analyze the behavior of travelers on a particular city by using their location histories to train a model capable to learn their travelling behavior. This model will emulate their trajectories in order to make tour recommendations by predicting the next venue most likely to be visited by a tourist based on the experience of other travelers and considering the tourist's current location. In this way, our system will generate important and diverse trip routes by connecting attractive landmarks. We encompass the user preferences to make personalized recommendations by generating a number of trips based on different categories previously defined by using a topic modeler algorithm feed with the content of the description of every photo attached in keywords format. Our approach also incorporates the use of clustering algorithms to automate the detection of potential point of interest for new travelers applying it on a geotagged photo dataset mined from an online social media sharing website. Unlike most of the previous works on tour recommenders, we also compared the effectiveness of using two different behavior modelers on our recommendation system, one using a straightforward n-gram model that evolve at different size to make better recommendations, and a second one tailored by the power of a long-short term memory neural network architecture