

A DECISION SUPPORT SYSTEM FOR TRIP TOURISM RECOMMENDATION

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ABSTRACT

The rapid growth in the use of recommendation systems in the tourism sector is mainly related to the possibility to access updated data deriving from social networks, thus providing more appropriate and personalized suggestions. The paper presents a tourist trip recommendation system that suggests personalized itineraries defined as sequence of Point of Interest to visit. The system core integrates two software modules: a neural network and an optimization engine. For every pair user-PoI typology, the neural network provides, on the basis of the analysis of the social media data, a score between 0 and 1. These latter values are then used as input parameters for a routing optimization problem that suggests the itinerary by considering additional restriction, as, for example, time windows, budget and time limitations, specified by the end-user. Being a computational demanding problem, the model solution is carried out by applying a heuristic approach that is proven to provide high quality solution in a limited amount of time.

Keywords: Social media, neural network, routing problem