

數據科學系列演講

Data Science Seminar

2018.10.17 Wed.

15:30-17:20

國立交通大學光復校區

工程三館 115

講題：Music Recommendation Based on Multiple Contextual Similarity Information

In this talk, I will introduce a music recommendation approach by using various contextual similarity information based on the framework of Factorization Machine (FM). In specific, we will go through the FM approach, the idea of feature similarity, and the incorporation of multiple feature similarities into the FM framework. By integrating different feature similarities, the approach enables users to discover diverse items that they never listened before. In addition, in order to avoid the high computational cost and noise within the large number of similarity features, we also present a grouping FM technique to alleviate the problems. In the experiments, a real-world dataset is used to assess the performance of the proposed method. The dataset is collected from an online blogging website (LiveJournal), which includes user listening history, user profiles, social information, and listened music information. Our experimental results show that, with the multiple feature similarities based on the FM framework, the proposed method improves the recommendation performance significantly. Furthermore, with the proposed grouping technique, the efficiency of the method also gets improved significantly. In addition to the FM approach, in this talk I will also share the experience and lessons we learned from the collaboration with industry, and will briefly introduce the further advanced methods published in recent years based on the network embedding techniques.

主講者：Ming-Feng Tsai

研究領域：資訊檢索、推薦系統、自然語言處理、機器學習、人工智慧

Ming-Feng Tsai is currently an associate professor in the Department of Computer Science at National Chengchi University, and also a joint appointment assistant research fellow in Research Center for Information Technology Innovation at Academia Sinica. He received his Ph.D. degree from National Taiwan University in 2009. During his Ph.D. study, he was at Microsoft Research Asia as an intern with the Web Search & Mining group, and was awarded by the research center the “Best Intern of the Year.” After receiving his Ph.D. degree, he worked at National University of Singapore as a research fellow, participating in a research project related to machine translation. In 2010, sponsored by Taiwan Ministry of Science and Technology, he joined University of Illinois at Urbana-Champaign as a postdoctoral visitor, working on a project associated with advanced Web search and mining. In 2016, one of his publications was selected by ACM Computing Reviews as Notable Article of the 21st Annual Best of Computing. In 2017, he was given the NCCU Outstanding Teaching Award for his remarkable teaching achievement. His research interests span the area of information retrieval, recommender systems, machine learning, and natural language processing, and artificial intelligence.

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