



Graph Neural Networks for Recommender Systems



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► Abstract

Recommender systems have become increasingly important in our daily lives since they play an important role in mitigating the information overload problem, where data used in making recommendations can be naturally represented as graph-structured data. Meanwhile, recent years have witnessed the remarkable development of Graph Neural Networks (GNNs). The core idea is to iteratively aggregate feature information from local graph neighborhoods via a deep information-propagation mechanism through a graph, achieving promising performance in representation learning. Benefiting from such propagation effect, GNNs provide unprecedented opportunities to advance recommender systems from different perspectives, like the pure collaborative filter techniques with user-item graph (user-item interactions), social recommendations with social graph (user-user connections), knowledge-aware recommendations with knowledge graph (item attributes). In this seminar, we aim to give a comprehensive review on the recent progress of advanced GNNs techniques for recommender systems.

► About the Speaker

Wenqi Fan is currently a research assistant professor of the Department of Computing, The Hong Kong Polytechnic University (PolyU). Before joining the Department, he worked as a Postdoctoral Fellow at PolyU and received his Ph.D. degree in computer science from the City University of Hong Kong (CityU) in 2020. His research interests are in the broad areas of machine learning and data mining, with a particular focus on recommender systems (RecSys), graph neural networks (GNNs), and adversarial attacks. He has actively published in prestigious journals and conferences including TKDE, WWW, ICDE, IJCAI, WSDM, SDM, AAAI, and RecSys. Updated information can be found at his homepage: <https://wenqifan03.github.io>.

