

Collaborative Filtering Fusing Label Features Based on SDAE - DTU Orbit (09/11/2017)

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Collaborative filtering (CF) is successfully applied to recommendation system by digging the latent features of users and items. However, conventional CF-based models usually suffer from the sparsity of rating matrices which would degrade model's recommendation performance. To address this sparsity problem, auxiliary information such as labels are utilized. Another approach of recommendation system is content-based model which can't be directly integrated with CF-based model due to its inherent characteristics. Considering that deep learning algorithms are capable of extracting deep latent features, this paper applies Stack Denoising Auto Encoder (SDAE) to content-based model and proposes LCF (Deep Learning for Collaborative Filtering) algorithm by combing CF-based model which fuses label features. Experiments on real-world data sets show that DLCF can largely overcome the sparsity problem and significantly improves the state of art approaches.

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