Analyzing Amazon Movie Reviews Through Network Analysis

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Abstract

This research explores user interactions and movie product dynamics within the Amazon movie review dataset, which contains approximately 8 million reviews spanning over 10 years. Collected from the Stanford Network Analysis Project (SNAP), the dataset provides key attributes such as user IDs, product IDs, review scores, and timestamps, offering a foundation for various analytical methodologies, including network analysis and temporal dynamics. This study aims to understand how users engage with products over time and how their expertise evolves through interactions with different products. These networks will be used to examine interactions at both the individual and community levels. Key aspects of the analysis include identifying central users and popular products using degree centrality and other network metrics. Additionally, we will analyze temporal dynamics to model how user preferences change over time and the role of user expertise in shaping product ratings. The study will also focus on applying community detection methods to uncover groups of users with similar tastes or review behaviors and to understand how these communities evolve.

References

[1] Amazon Movie Review Dataset, Stanford Network Analysis Project (SNAP). Available: `https://snap.stanford.edu/data/movies.txt.gz`

[2] J. McAuley and J. Leskovec, "From Amateurs to Connoisseurs: Modeling the Evolution of User Expertise through Online Reviews", in *WWW*, 2013. Available: `http://i.stanford.edu/~julian/pdfs/www13.pdf`