

# News Application with Personalized News Recommendation and OCR

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**Abstract:** *With the increasing shift towards digital news consumption, users are exposed to an overwhelming amount of content from various sources. News Recommender Systems (NRS) play a crucial role in addressing information overload by providing users with relevant and reliable news articles tailored to their interests. The internet has become the dominant medium for news consumption, offering real-time updates and free accessibility. According to a 2018 Pew Research Center survey, approximately 93% of U.S. adults consume news through digital platforms, including online newspapers, social media, and mobile applications. Despite advancements in technology, research suggests that the criteria for determining news relevance in digital media remain similar to those in traditional print journalism. This paper explores the most effective algorithm for a news recommendation system. It focuses on content-based and collaborative filtering approaches, which not only analyze real-time news but also build user interest profiles based on browsing behavior. These profiles enable personalized recommendations that align with individual preferences. The discussion is divided into two parts: the first section provides an overview of recommendation techniques, while the second presents a literature review. We evaluated multiple recommendation models, including the RBM model with an accuracy of 0.8238, the DKN model with 0.4652, the DMF model with 0.4603, and the BPR model achieving 0.9501 accuracy. This study highlights the importance of recommender systems in enhancing the online news consumption experience*

**Keywords:** Content recommendation, Collaborative filtering, Content filtering, Recommender systems, Personalization, News Recommendation System

