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Personalized E-Learning Content Recommendation System

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Abstract

In an increasingly digitized world, online education is continually evolving. Yet, personalizing content for individual learning styles remains a challenge. Our research presents an innovative approach to address this issue, focusing on the identification and recommendation of personalized content types based on individual preferences.

We designed a model that uses machine learning to categorize users into predefined learning strategies: 'Video-based', 'Text-based', or 'Audio-based' learning. This categorization considers individual characteristics such as focus, language proficiency, and sensory capabilities.

Our approach predicts the preferred learning strategy of each user, providing a personalized roadmap for content delivery. Testing revealed high accuracy levels in predicting these preferences, signalling its robustness in aligning content with individual learning styles.

The strength of our research lies not just in enhancing a single system but in its potential for broader application. The solution can be integrated into various educational technology platforms to optimize content recommendation, fostering an engaging, effective, and personalized learning experience for users.

In conclusion, this research represents a leap forward in the realm of online education. By prioritizing user preference in content delivery, we anticipate significant improvements in learning effectiveness and overall user satisfaction.

Keywords: Content recommendation, Preferred learning strategies, Personalization, Machine learning, Educational technology, Online learning, Recommendation systems, User engagement, Career orientation, Learning Analytics

Subject Descriptors:

- Computing methodologies >> Artificial intelligence >> Recommendation systems
- Computing methodologies >> Machine learning >> Supervised learning
- Computing methodologies >> Machine learning >> Data analysis
- Education >> Online education >> E-learning platforms
- Education >> Learning strategies >> Personalized learning
- Career development >> Career orientation >> Career recommendation
- User interfaces >> User engagement >> Online tutoring
- Information retrieval >> Content recommendation systems