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(57) Abstract :
The present invention discloses an AI-based recommendation system for e-commerce platforms comprising user interaction module (101), data processing layer (102), recommendation engine (103), contextual learning module (104), knowledge graph (105), and output delivery interface (106). The system employs hybrid collaborative filtering, content analysis, and reinforcement learning for real-time personalized recommendations. It addresses cold-start problems, enhances diversity, and ensures scalability while maintaining explainability and trustworthiness. Experimental validation demonstrates significant improvements in click-through rates, user satisfaction, and product discoverability, making the invention highly effective for modern e-commerce ecosystems.

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