

Smart Reselling: Leveraging MERN Stack and AI for Intelligent Bidding in E-Commerce

Swarnim Shekhar, Shrihari Chaurasiya, Prof. Deepa Mishra

MIT-ADT University, Pune, India

swarnim2302@gmail.com, satyam18p@gmail.com, deepa.mishra@mituniversity

Abstract: Digital reselling marketplace expansion has brought a radical change in e-commerce, however issues like failed transactions, security and safety risks, spam, and ineffective interactions between buyers and sellers remain a concern. In this context, this paper offers an appropriate approach to dealing with this problems informing the introduction of Bid2Buy, a smart bidding system that combines the MERN stack and artificial intelligence technologies to further streamline the process of reselling. Such a system ensures security, transparency and completion of transactions by abstracting the buyer-seller interaction through a time-bound digital bidding system whereby buyers submit their bids within stated timeframes, subject to a minimum bid condition at which point the bid is guaranteed financial security. The product is offered to the highest bidder at the end of the auction; thereby protecting fair competition among members and reducing delays in the transaction. Christened the intelligent persuasive recommendation system, this additional system utilizes machine learning and AI to recommend bid options most appropriate for the users and help sellers set initial monitors. Computer vision technology is also included in the system to scan through images of the products and descriptions to enhance picture equity. Bid2Buy not only optimizes the process of reselling by providing embedded payment mechanisms and comprehensive verification procedures but also maintaining security and reliability features for all users. This paper explores the architecture, implementation, and benefits of using the MERN stack alongside AI technologies in transforming digital marketplaces into more efficient, secure, and user-friendly platforms.

Keywords: Intelligent Bidding, MERN Stack, Machine Learning (ML), Deep Learning (DL), Computer Vision, Product Verification, Real-time Transactions, Transaction Security, Buyer-Seller Interaction, AI Recommendations, Dynamic Pricing, Fraud Prevention, Payment Integrity, Firebase Integration, Bidding Algorithm, Platform Trust, Secure Payment

Gateways, Product Authentication, Personalized User Experience

