| **Feature Name** | **Description of Feature** | **User Value** | **Business Value** | **Common Algorithms & Techniques** |
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| **Personalized Recommendations** | **Suggests products based on browsing history and past purchases** | **Makes shopping faster and easier for users** | **Increases sales and customer engagement** | **Collaborative Filtering, Content-Based Filtering, Deep Learning (Neural Collaborative Filtering)** |

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| **Search Auto-completion** | **Predicts user search queries and offers relevant suggestions** | **Reduces time taken for users to find products** | **Improves search efficiency, leading to increased conversion rates** | **N-grams, Trie-based Auto-completion, Neural Language Models (RNNs, Transformers)** |

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| **Chatbots/Customer Support** | **Provides automated responses to customer inquiries through chatbots** | **Quick resolution of common issues, 24/7 support** | **Reduces the cost of customer support while maintaining satisfaction** | **Natural Language Processing (NLP), Transformer-based Models (BERT, GPT), Intent Classification** |

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| **Product Search Ranking** | **Shows the most relevant products based on the user’s search** | **Helps users find what they are looking for faster** | **Higher conversion rate and customer satisfaction** | **Learning to Rank (LTR) models, Gradient Boosting (e.g., XGBoost), Relevance Scoring with ElasticSearch or Solr** |

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| **Fraud Detection** | **Identifies suspicious transactions or activities** | **Increases trust in the platform by preventing fraud** | **Reduces fraud-related losses and enhances platform security** | **Anomaly Detection (Isolation Forest, LOF), Logistic Regression, Deep Learning, Graph-Based Fraud Detection** |

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| **Inventory Management** | **Predicts stock levels and adjusts inventory orders** | **Ensures popular products are always available** | **Optimizes inventory holding costs and reduces overstock/out-of-stock** | **Time Series Forecasting (ARIMA, Prophet), Reinforcement Learning for Dynamic Stock Optimization** |

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| **Voice Search (Alexa)** | **Allows users to search for products via voice commands** | **Easier for users to search without typing** | **Enhances the brand’s value by integrating with popular voice platforms** | **Speech Recognition (e.g., ASR models), NLP for Intent Detection, Entity Recognition** |

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| **Dynamic Pricing** | **Adjusts prices dynamically based on demand, supply, and competition** | **Users get competitive pricing** | **Maximizes revenue while staying competitive** | **Regression Models, Reinforcement Learning, Bayesian Inference, Pricing Elasticity Estimation** |

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| **Image Recognition** | **Enables users to search for products by uploading images** | **Simplifies the search process for users who can't describe the product** | **Increases user engagement and conversion rates** | **Convolutional Neural Networks (CNNs), Object Detection Models (YOLO, Faster R-CNN)** |

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| **Product Reviews Sentiment Analysis** | **Analyzes the sentiment of customer reviews and displays insights** | **Helps users make informed decisions based on real feedback** | **Helps the business understand product feedback and improve product quality** | **Sentiment Analysis (Naive Bayes, LSTM, Transformer-based models like BERT), Aspect-Based Sentiment Analysis** |