MACHINE LEARNING CANVAS

PREDICTION TASK

Unsupervised machine learning task that aims to find associations between items.

DECISIONS

- Product Placement
- Cross-Selling and Upselling
- Marketing Campaigns
- Inventory Management

VALUE PROPOSITION

Enhance the shopping experience, improve customer satisfaction, and increase cross-selling opportunities for the business by providing personalized product recommendations to the end-users based on their previous purchase history.

DATA COLLECTION

Update models with new training data based on trigger events, data volume, stability, and business needs.

DATA SOURCES

Internal Data Sources (Transactional Data, Product Catalog, etc.) and External Data Sources (Market Data, Social Media Data, etc.)

IMPACT SIMULATION

Methods for evaluation: A/B Testing

Metrics for evaluation: Support, Lift, Confidence

MAKING PREDICTIONS

Update models with new training data based on trigger events. Featurization time can range from minutes to hours

BUILDING MODELS

Have one main production model that captures the underlying patterns. Updating the model less frequently might be sufficient

FEATURES

Customer ID, Product ID, Transaction Date/Time, Transaction Quantity, Transaction Amount, Customer Demographics, Product Descriptions, Historical Purchase Patterns

LIVE EVALUATION AND MONITORING

- *A/B Testing*: Compare performance of deployed system against baseline
- *Conversion Rate*: Measure rate at which recommendations lead to actual purchase
- *Return on Investment (ROI)*: Calculate financial return on the investment