

# ㊂ AutoMate Multi-Agent System

Intelligent data analysis with LLM-powered agents



## Query Input

Enter your business question:

Example: What are the top 5 product categories by revenue?



## System Status

API Key configured

Data path found

Found 8 data files

View data files



## Example Queries

Or choose an example:

What product categories are frequently bought together with sports and leisure?

## 🔍 Analysis Results

Run Analysis

## 📊 Analysis Progress

Analysis completed successfully!

## 💼 Business Insights & Recommendations

**EXECUTIVE SUMMARY** Our analysis reveals that customers who purchase sports and leisure products often buy items from the health and beauty category as well. This presents a significant opportunity for cross-promotional strategies. Additionally, there are notable associations with housewares and watches, which could be leveraged to enhance sales.

### KEY INSIGHTS

- **Health and Beauty Connection:** Customers buying sports and leisure products are over twice as likely to also purchase health and beauty items, indicating a strong complementary relationship.
- **Housewares Association:** There is a notable pattern where sports and leisure buyers also purchase housewares, suggesting potential for bundled offers.
- **Watches and Gifts:** A smaller, yet significant, portion of sports and leisure buyers also purchase watches and gifts, which could be targeted for special promotions.
- **Construction Tools and Perfumery:** These categories show weaker associations but still present niche opportunities for targeted marketing.

### BUSINESS IMPLICATIONS

- **Cross-Promotion Opportunities:** The strong link with health and beauty products suggests potential for joint promotions or bundled deals to increase average transaction value.
- **Product Placement:** Consider strategic placement of housewares and watches near sports and leisure sections to capitalize on these buying patterns.
- **Targeted Marketing:** Tailor marketing campaigns to highlight the complementary nature of these products, particularly focusing on health and beauty.

### ACTIONABLE RECOMMENDATIONS

1. **Develop Bundled Offers:** Create promotional bundles combining sports and leisure products with health and beauty items to drive sales.
2. **In-Store Placement Strategy:** Position housewares and watches near sports and leisure sections to encourage impulse buys.
3. **Cross-Category Promotions:** Launch targeted marketing campaigns that highlight the benefits of combining sports and leisure with health and beauty products.
4. **Customer Segmentation:** Identify and target customer segments that frequently purchase these combinations for personalized marketing efforts.
5. **Seasonal Campaigns:** Utilize seasonal events to promote these product combinations, such as fitness resolutions in January or summer sports activities.

### NEXT STEPS

- **Further Analysis:** Conduct deeper analysis to understand the specific products within these categories that are most frequently bought together.
- **Customer Feedback:** Gather customer feedback to understand motivations behind these purchasing patterns.

- **Monitor Sales Data:** Track the impact of implemented strategies on sales to refine and optimize promotional efforts.
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## Data Results

### Analysis Results:

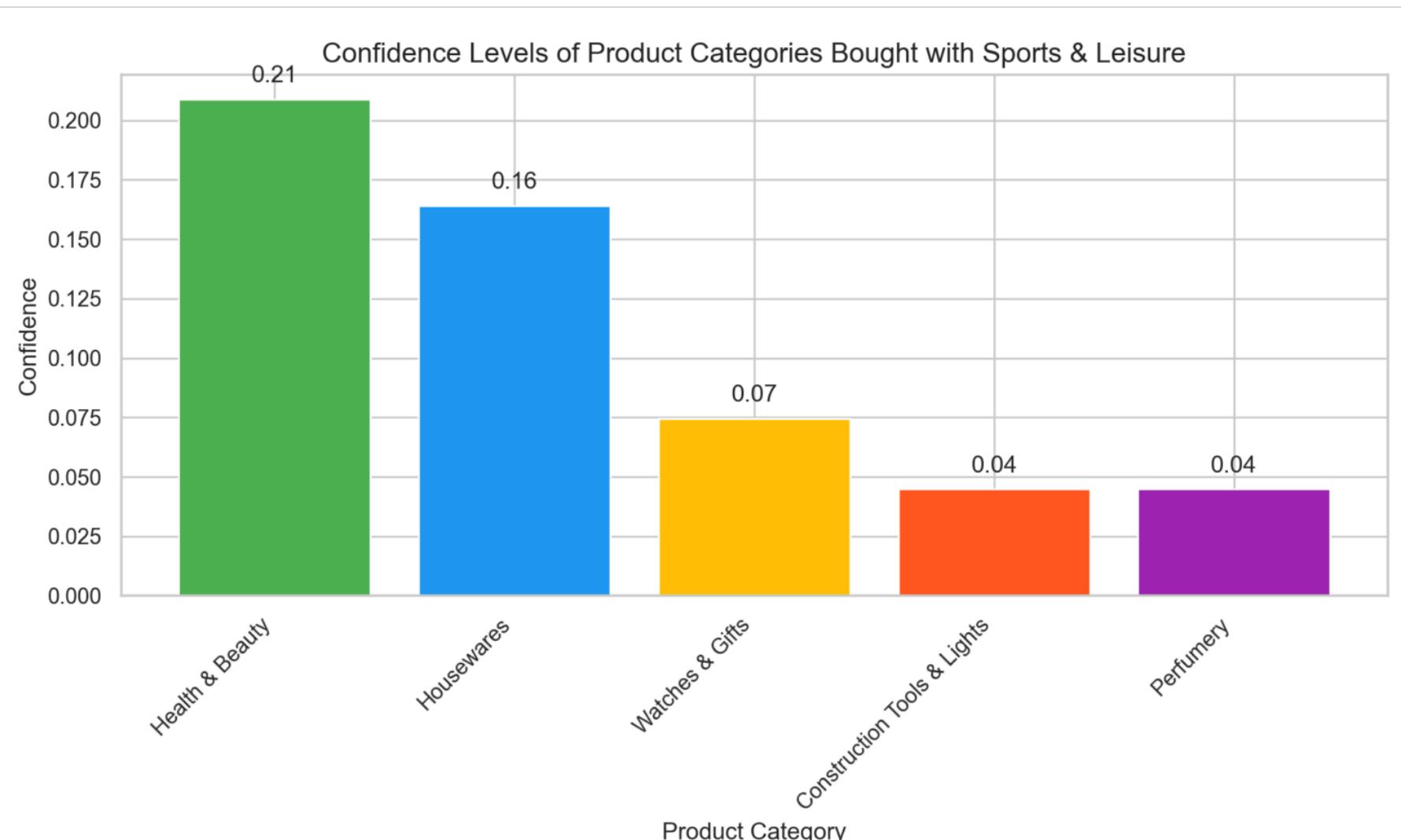
	antecedents	consequents	support	confidence	lift
0	sports_leisure	health_beauty	0.0193	0.209	2.1701
1	sports_leisure	construction_tools_lights	0.0041	0.0448	1.8085
2	sports_leisure	watches_gifts	0.0069	0.0746	1.3563
3	sports_leisure	perfumery	0.0041	0.0448	1.252
4	sports_leisure	housewares	0.0151	0.1642	1.1702

 Download Analysis Results (CSV)

## Additional Visualizations

Charts from exploratory analysis, clustering, and other agents

▼  Orchestrator (1 chart)



Health & Beauty products have the highest confidence level, indicating a strong complementary relationship with Sports & Leisure.



 **Quick Summary**

Datasets Analyzed

8

Agents Executed

5

Visualizations Created

1

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**Multi-Agent Data Science System** - Powered by LangGraph & OpenAI