Atomberg AI/ML Internship Application

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Project Repository

You can find the full project and source code at: `Atomberg SOV Analyzer`

Introduction

The given Python script is designed to analyze brand and competitor presence of Atomberg across Google and YouTube search results, and generating keyword performance insights using the OpenAI API. It includes functions for querying search engines, parsing results, and generating reports on brand performance and growth opportunities.

Functions Explanation

1. normalize_view_count

```
def normalize_view_count(text) -> int:
```

This function converts a YouTube view count (expressed as a string) into an integer. The function recognizes shorthand notations such as 'k', 'm', and 'b' for thousand, million, and billion respectively. If the input string is not recognized, the function returns zero.

2. google_search

```
def google_search(keyword: str, limit: int = 10):
```

This function performs a Google search using the SERPAPI API. It retrieves up to the specified number of search results (default 10) and extracts the title, link, and snippet of each result.

3. youtube_search

```
def youtube_search(keyword: str, limit: int = 10):
```

This function queries YouTube search results using the SERPAPI API. It fetches video titles, views (using the `normalize_view_count` function), and descriptions for the videos.

$$\text{youtube\_search}(keyword, limit) \implies \{\text{title}, \text{views}, \text{snippet}\}$$

4. brainstorm_keywords

```
def brainstorm_keywords(base_term: str, brand: str, count: int = 5):
```

This function generates related search keywords for a given base term (In our case, it's "smart fan") using OpenAI's GPT model. It returns a list of related terms, such as informational, commercial, or long-tail phrases, to assist in marketing and SEO analysis.

$$\text{brainstorm\_keywords}(base\_term, brand, count) \implies \{\text{related\_terms}\}$$

5. keyword_analysis

```
def keyword_analysis(data: dict, brand: str, term: str):
```

This function analyzes search results data from Google and YouTube for a given keyword and brand. It calculates Share of Voice (SoV) for both platforms and combines the insights.

For Google search results, SoV is calculated by dividing the number of results mentioning the brand by the total number of results for a given keyword, then multiplying by 100:

$$\text{SoV}_{Google} = \frac{\#\text{results mentioning the brand}}{\text{total Google results}} \times 100$$

On YouTube, SoV is weighted by video views to better reflect audience reach. It is computed as the total views of brand-related videos divided by the total views of all videos for the keyword, multiplied by 100:

$$\text{wSoV}_{YouTube} = \frac{\text{total views of brand videos}}{\text{total views of all videos}} \times 100$$

These calculations provide a clear metric of a brand's share of attention in both search and video platforms.

6. compile_strategy_report

```
def compile_strategy_report(summaries: list, brand: str):
```

This function compiles a comprehensive marketing report based on the keyword analyses. The report includes an executive summary, Google vs. YouTube performance comparison, growth opportunities, and actionable recommendations.

AI-Powered Brand Visibility Report

Atomberg Online Presence Report

Executive Summary

The analysis of Atomberg's online presence reveals a significant gap in visibility and engagement across both Google and YouTube platforms, particularly in the context of smart fans. While there are some mentions of the brand in Google search results, they are limited and lack positive sentiment. YouTube, on the other hand, shows a complete absence of engagement, with no views for Atomberg-related videos. This indicates a critical need for Atomberg to enhance its online visibility, engage with its audience, and improve brand sentiment to effectively compete in the smart fan market.

Google vs YouTube Performance Comparison

Google Performance:

- Moderate SoV for the keyword `"how does a smart fan work"` (37.5%).
- Low SoV for other keywords like `"smart fan vs traditional fan comparison"` (10%) and `"energy-efficient smart ceiling fans"` (12.5%).
- Positive sentiment recorded only for `"smart fan features and benefits"` with 100% SoPV.

YouTube Performance:

- Negligible presence with a weighted SoV (wSoV) of 0% across all analyzed keywords.
- No views for any Atomberg-related videos, indicating a lack of video content engagement.

Top Growth Opportunities per Platform

Google:

- **Content Marketing:** Create informative articles and blog posts targeting keywords like `"best smart fan for home use"` and `"energy-efficient smart ceiling fans"`.
- **SEO Optimization:** Improve rankings by enhancing existing content and addressing user intent and FAQs.

YouTube:

- **Video Content Creation:** Produce educational and promotional videos about smart fans and Atomberg's unique features.
- **Influencer Collaborations:** Partner with influencers in home improvement and tech for product reviews and demonstrations.

Actionable Recommendations

1. **Develop a Comprehensive Content Strategy:** Plan and produce blogs, infographics, and videos around smart fan-related keywords to increase search and social visibility.

2. **Leverage Social Media and Video Marketing:** Launch engaging campaigns on YouTube and Instagram featuring tutorials, reviews, and comparisons to boost brand recognition.

3. **Monitor and Respond to Customer Feedback:** Actively engage with users across platforms by responding to comments, encouraging reviews, and improving sentiment through timely support and communication.