
Topic Modeling - Product Reviews

User Guide

Introduction

Overview of the User Guide

Welcome to the User Guide for the "Topic Modeling - Product Reviews" application. This guide is designed to help you navigate and make the most of our application. Whether you're a first-time user or seeking advanced insights, this guide will provide you with all the information you need to effectively utilize the power of topic modeling on product reviews.

Purpose of the Application

The "Topic Modeling - Product Reviews" application serves as a valuable tool for users looking to gain meaningful insights from a large corpus of product reviews. By employing advanced natural language processing techniques, this application identifies latent topics within reviews and assigns labels to facilitate comprehension. It empowers users to make informed decisions about products, backed by data-driven analysis.

Getting Started

System Requirements

Before diving into the application, ensure that your system meets the following requirements:

- Operating System: Windows, macOS, or Linux
- Web Browser: Chrome, Firefox, Safari, or Edge
- Python: Version 3.6 or higher
- Internet Connection: Required for web scraping

How to Choose a Product

To begin using the application, you'll need to select a product for analysis. Follow these steps:

1. Launch the application by navigating to [application URL].
2. You will be presented with a list of available products.
3. Click on the product you wish to analyze.
4. The application will initiate the analysis process for your selected product.

Understanding the Results

Meaning of Topic Labels

In the results section, you will encounter topic labels that provide a quick overview of the themes identified within the product reviews. These labels are generated based on significant keywords associated with each topic. Here's what these labels signify:

- [Label 1]: Represents the primary theme of Topic 1.
- [Label 2]: Represents the primary theme of Topic 2.
- [Label 3]: Represents the primary theme of Topic 3.
- [Label 4]: Represents the primary theme of Topic 4.

The assigned labels help you grasp the essence of each topic, making it easier to interpret the results.

Step-by-Step Guide

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| 1. Clone the project repository from GitHub: <code>git clone <https://github.com/raviteja-padala/Topic Modeling-Product Reviews.git></code> |
| 2. Navigate to the project directory: <code>cd Topic-Modeling-Product-Reviews</code> |
| 3. Install project dependencies: <code>pip install -r requirements.txt</code> |
| 4. Run the Flask application: <code>python app.py</code> |
| 5. Access the web interface by opening a web browser and navigating to <code>http://localhost:5000`</code> |

Tips for Effective Use

To maximize the effectiveness of the "Topic Modeling - Product Reviews" application, consider the following best practices:

- **Exploratory Analysis:** Start by analyzing a product you are interested in. Explore the generated topics and keywords to understand the discussions around the product.
- **Comparative Analysis:** Compare results across different products to gain insights into how customer perceptions vary.
- **Keyword Interpretation:** Pay attention to significant keywords within topics. They can provide nuanced insights into specific aspects of the product.

Optimal Product Selection

When choosing a product for analysis, consider the following tips:

- **Diverse Selection:** Analyze products from different categories to explore a wide range of topics.
- **High Review Count:** Select products with a substantial number of reviews for robust analysis.
- **Personal Interest:** Analyze products that align with your interests or research goals for a more engaging experience.

Interpretation of Results

Interpreting the results effectively is essential for deriving valuable insights. Keep these points in mind:

- **Topic Relevance:** Assess how relevant each topic is to the product. Some topics may be more central than others.
- **Keyword Emphasis:** Focus on keywords within each topic to understand specific customer sentiments and opinions.
- **Topic Weights:** Consider the topic weights to gauge the overall significance of each theme within the reviews.

Conclusion

In conclusion, the "Topic Modeling - Product Reviews" application offers an invaluable means of extracting insights from product reviews. By employing topic modeling and label assignment, it simplifies the process of understanding customer sentiments and identifying key themes.

