Unveiling Tropes: GA Capstone Project Presentation on Text Analysis and Trope Detection

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Introduction

- Brief Overview: Welcome to my capstone project presentation. Today, I'll be discussing my work on analyzing and detecting tropes in text.

- Agenda:
  - Definition Used
  - Problem Statement
  - Results and Findings
  - Tool Description
  - Applications
  - Future Enhancements
  - Questions

TV Tropes Definition

- TV Tropes: A Compendium of Recurring Narrative Elements/A wiki website collecting common storytelling elements
  - Founded in 2004 by Anthony "Ant" Wandtke and Michael "Mike" Drew
  - Valuable resource for writers, filmmakers, and fans
- Trope: A repository of recurring storytelling elements in fiction
  - Examples: Hero's Journey, Chekhov's Gun, Coming of Age Story
  - Tropes can enhance or hinder storytelling
    - Skillful use empowers compelling narratives

Problem Statement

- Problem Statement
  - Identifying tropes in creative works is time-consuming and challenging.
  - Writers, filmmakers, and storytellers struggle to use tropes effectively and avoid clichés.
  - Fans of popular culture find it difficult to understand the tropes in their favorite stories.
- Solution: A trope scanner automates trope identification, saving time and enhancing storytelling.
- Applications:
  - Writers use it for inspiration.
  - Filmmakers avoid clichés.
  - Fans explore the history and significance of tropes.

Data Collection

- Media sources used:
  - Full episode summary: https://simpsons.fandom.com/wiki/Season_1
  - Trope source: https://tvtropes.org/pmwiki/pmwiki.php/Recap/TheSimpsons (Only Season 1 episodes used)
- Reason for Choice: Extensive data, well-maintained wiki, comprehensive trope definitions

Trope selected

1. Extract tropes from selected recap pages
2. Do tally of tropes
3. Pick 10 most occurring tropes

Results and Findings

```
In [38]:    1  print(classification_report(y_test, y_pred_cv_xgb))
```

	precision	recall	f1-score	support
0	0.83	0.28	0.42	18
1	0.82	0.62	0.71	37
2	0.75	0.80	0.77	45
3	0.93	1.00	0.96	75
4	0.80	0.77	0.79	31
5	0.86	0.25	0.39	24
6	1.00	0.39	0.56	18
7	0.76	0.69	0.72	32
8	1.00	0.33	0.50	18
9	0.88	0.80	0.83	44
micro avg	0.85	0.70	0.77	342
macro avg	0.86	0.59	0.66	342
weighted avg	0.86	0.70	0.74	342
samples avg	0.82	0.70	0.74	342

```
In [39]:    1  gs_cv_xgb.score(X_test, y_test)
```

```
Out[39]:  0.35802469135802467
```

Tool Description

- Key Features:
    - Identify tropes in written text
    - Analyze trope usage and significance
    - Compare tropes across different media
    - Visualize trope distribution for deeper insights
- Ease of Use:
    - Intuitive interface for seamless navigation
    - Simple input methods for various media formats
    - Interactive visualizations for enhanced understanding

Functionality

Input media here → Let model scan → Return list of tropes
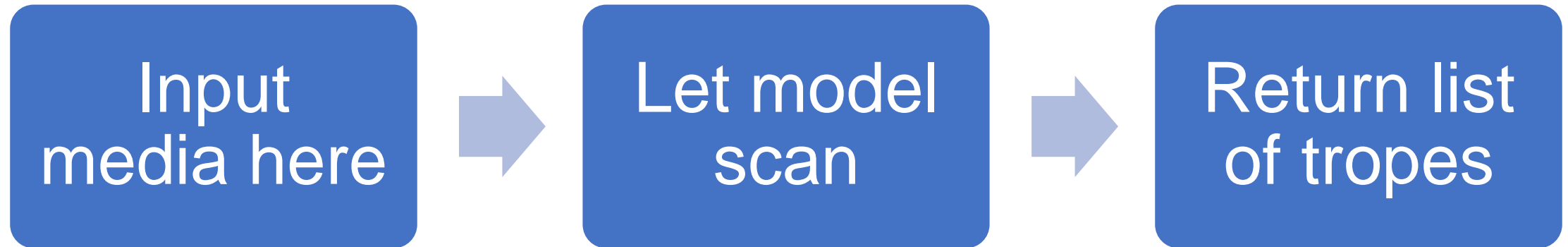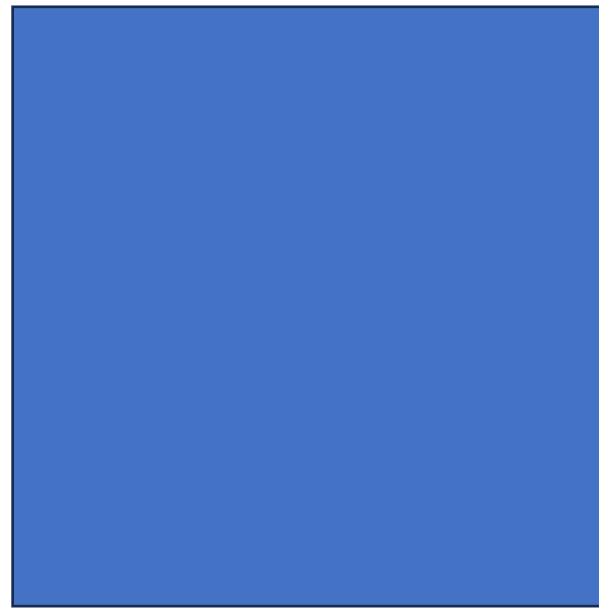
Applications

- A screenwriter struggling with a new script can use the tool to identify overused tropes and explore alternative narrative approaches.

- A novelist researching a historical novel can use the tool to identify tropes commonly used in works of historical fiction, ensuring historical accuracy and genre conventions.

- A film director preparing to adapt a book into a movie can use the tool to analyze the book's tropes and plan how to translate them effectively into a visual medium.

- A fan of a popular TV show can use the tool to identify the show's recurring tropes, gain a deeper appreciation for the show's storytelling, and connect with other fans who enjoy similar tropes.

Future Enhancements (Part 1)

- Current Limitations:
  - **Language Barrier (She is learning to play the piano)**
  - **Structured Text Focus**
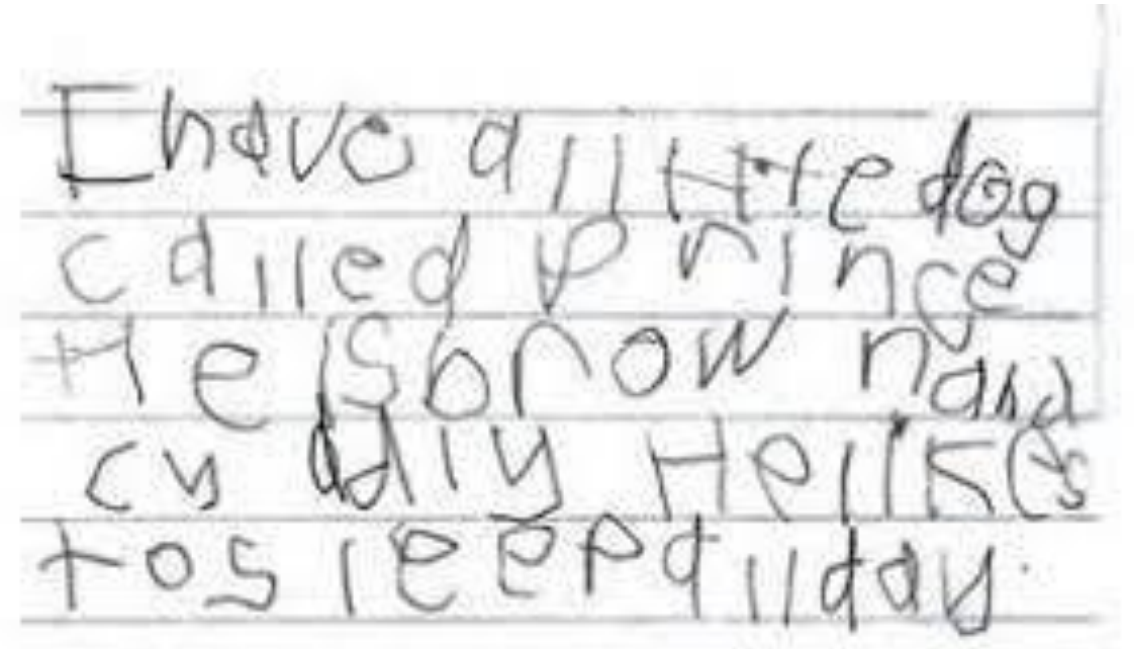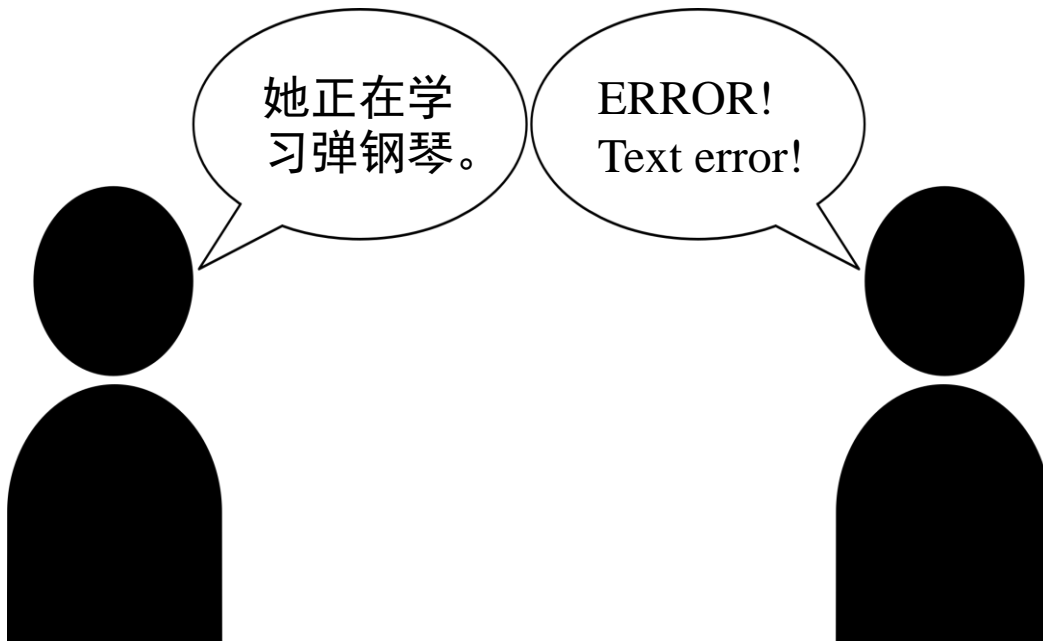
Future Enhancements (Part 2)

- Internationalization: Recognize the importance of internationalization.
  - **Global Trope Recognition**
  - **Bridging Linguistic and Cultural Gaps**

Non-English Work Spotlight

The wiki may be in English, but that doesn't mean non-English media are any less important! This section focuses on works that may have a language barrier to deal with — but are worth it if you do.

- *Fuan no Tane* is a manga collection of horror stories from 2004. While many tales feature supernatural creatures with blank or misshapen faces, others include abduction by lightning, a QR code that resets your phone, a mysterious boy in the closet, people made of straw, and many more. The manga got a sequel in 2005 and a film adaptation in 2013.

Future Enhancements (Part 3)

- Expansion Plans:
    1. **Non-Structured Text Media Support**
    2. **Audio Analysis Integration**
    3. **Image Recognition Functionality**
    4. **Video Media Inclusion**