

News Analysis Generative AI

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“A new way to be informed”



Problem Statement

Today, news media is as biased as ever. Because of this, coverage of sensitive topics can broadcast skewed views that warp the public perception of true events. Because of this, it is our duty as consumers and informed citizens to regulate our intake of information.

Proposed Solution

Our solution to biased news sources is our News Analysis Generative AI.

```
# Example:
left_src = 'the-new-york-times,the-washington-post,msnbc'
right_src = 'fox-news,breitbart-news'
neutral_src = 'associated-press' # mainstream center

left = fetch_articles(left_src, 'left')
right = fetch_articles(right_src, 'right')
neutral = fetch_articles(neutral_src, 'neutral')

df = pd.DataFrame(left + right + neutral).dropna(subset=['text'])
# print(df.label.value_counts(), len(df))

def clean_text(txt):
    if not isinstance(txt, str):
        return ""
    txt = txt.lower() # normalize case
    txt = re.sub(r'\(.*?\)', '', txt) # remove (bracketed) text
    txt = re.sub(r'https?://.*', '', txt) # remove links
    txt = re.sub(r'\".*\"', ' ', txt) # collapse multiple whitespace into one space
    txt = txt.strip() # remove leading/trailing whitespace

    # Optional: remove common footer junk
    footer_keywords = ['click here', 'subscribe', 'sign up', 'advertisement']
    for keyword in footer_keywords:
        txt = txt.replace(keyword, '')

    return txt

df['text'] = df['text'].apply(clean_text)
# df = df[df['text'].str.len() > 200] # keep articles of reasonable length

model = SentenceTransformer('all-MiniLM-L6-v2')
embeddings = model.encode(df['text'].tolist(), show_progress_bar=True)

# Make sure it shows a non-zero count for each label.

print("Final data size:", len(df))
print("Label distribution:\n", df['label'].value_counts())

# Step 3: Train/Test Split
X_train, X_test, y_train, y_test = train_test_split(
    embeddings, df['label'], test_size=0.2, stratify=df['label'], random_state=42
)

clf = LogisticRegression(max_iter=1000)
clf.fit(X_train, y_train)

# y_pred = clf.predict(X_test)
# print(classification_report(y_test, y_pred))
joblib.dump(clf, 'bias_classifier.pkl')
```

News Bias Analyzer with Gemini AI

Upload an article file (txt):

[Choose File](#) | No file chosen

[Analyze File](#)

Paste article text or a news URL:

Enter article text or URL here...

[Analyze Text URL](#)

Predicted Bias: Right

Confidence Scores:

- Left: 38.3%
- Neutral: 13.38%
- Right: 51.33%

Gemini AI Explanation:

Analysis of Fox News Article on Senator Padilla's Removal
1. Summary of Main Points California Senator Alex Padilla interrupted Homeland Security Secretary Kristi Noem's press conference addressing the Los Angeles anti-ICE riots. Padilla allegedly "lunged" at the podium, attempting to speak over Noem. Authorities forcibly removed him from the room, initially ordering him to put his hands up. While initially not identifying himself as a Senator, Padilla later did so to FBI agents who were beginning to handcuff him, at which point they stopped. Noem, in the press conference, stated that DHS was committed to "liberating" Los Angeles from what she characterized as burdensome leadership. The article also mentions ICE increasing arrests of convicted criminals amidst the riots. **2. Why it might be classified as Right** The article leans right due to its framing of the events, choice of quotes, and overall narrative. It portrays Padilla's actions in a negative light, emphasizing the "forcible removal" and portraying him as disruptive and possibly uncooperative by not immediately identifying himself. Conversely, it presents Noem's statements and actions positively. The focus on ICE's increased arrests during "blue city" riots also aligns with a common right-wing narrative. **3. Language and Framing Suggesting Right-Wing Bias** ***"Lunging" at the podium:** This word choice implies aggression and disruptiveness on Padilla's part. ***"Forcibly removed," "bushed out of the room," "handcuffing:** These phrases emphasize the physical intervention by authorities, creating a sense of Padilla deserving punishment. ***"Socialist and burdensome leadership:** Noem's quote directly attacks the political ideologies of those governing Los Angeles, a common target of right-wing rhetoric. ***"Liberate this city:** This framing uses strong, emotionally charged language associated with right-wing narratives of rescuing cities from liberal governance. ***"Blue city riots:** This term frequently appears in right-wing media, associating urban unrest with Democratic-controlled areas. ***"ICE ramps up arrests of convicted criminals:** Presenting this as a positive action implicitly supports a stricter approach to immigration enforcement, a common right-wing stance. ***Source and Headline:** The article is from Fox News, a known right-leaning news source, and the headline emphasizes the forcible removal of the senator, immediately setting a negative tone. ***4. Reliability of the Bias Prediction** The 51.33% confidence score for "right" bias indicates a moderate level of certainty. While the article clearly exhibits right-leaning framing, a 35.30% score for "left" suggests some elements could be interpreted differently. This discrepancy might arise from the factual basis of the event itself. The physical removal of a senator is a significant event that could be interpreted differently depending on the viewer's political perspective. A more nuanced analysis would involve cross-referencing with reports from other news outlets to gain a more comprehensive understanding of the incident. **5. Tip on Critically Reading this Article** ***"Consider the source:** Recognize Fox News's established right-leaning bias. ***"Look for alternative perspectives:** Read reports from other news organizations (e.g., Associated Press, Reuters, The New York Times) to compare their framing and accounts of the incident. ***"Analyze word choice and framing:** Pay attention to emotionally charged language and how events are presented. ***"Identify potential biases:** Consider whether the article presents a balanced view or focuses primarily on one side of the story. ***"Verify facts:** Check the accuracy of claims made in the article against reputable sources. ***"Consider the broader political landscape and the ongoing issues surrounding immigration and law enforcement. By employing these critical reading skills, one can better assess the objectivity and potential biases present in news articles, allowing for a more informed understanding of the events reported.

Technologies

- Google Colab, Visual Studio Code, Git & GitHub, Google Gemini AI
- AI Models & API's
 - Google Gemini 1.5 Flash, [NewsAPI.ai](#)
- Notable libraries
 - Flask, sklearn, sentence_transformers, Pandas

Evaluation of Results

- Performance: The system correctly identified right-leaning bias in a Fox News article
- Confidence: 51.33% confidence shows appropriate caution rather than overconfidence
- Analysis Quality: Sophisticated textual evidence and bias indicator identification
- Areas for Improvement: Low confidence margins and need for validation testing

News Bias Analyzer with Gemini AI

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[Analyze File](#)

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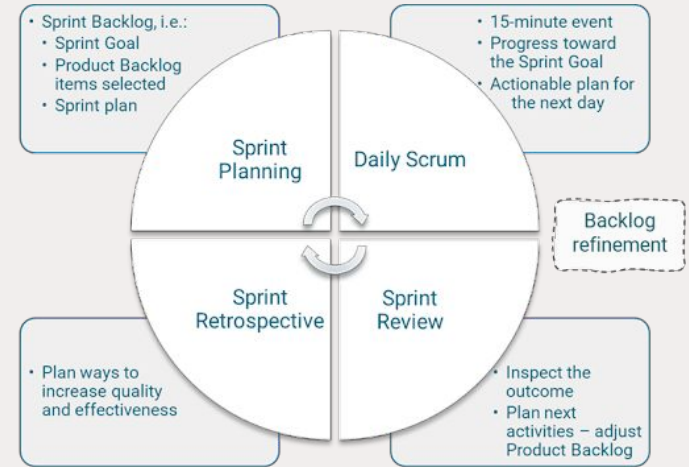
Analysis of Fox News Article on Senator Padilla's Removal ## Summary of Main Points: California Senator Alex Padilla interrupted Homeland Security Secretary Kristi Noem's press conference addressing the Los Angeles anti-ICE riots. Padilla allegedly "lunged" at the podium, attempting to speak over Noem. Authorities forcibly removed him from the room, initially ordering him to put his hands up. While initially not identifying himself as a Senator, Padilla later did so to FBI agents who were beginning to handcuff him, at which point they stopped. Noem, in the press conference, stated that DHS was committed to "liberating" Los Angeles from what she characterized as burdensome leadership. The article also mentions ICE increasing arrests of convicted criminals amidst the riots. ## 2. Why it might be classified as 'Right': The article leans right due to its framing of the events, choice of quotes, and overall narrative. It portrays Padilla's actions in a negative light, emphasizing the "forcible removal" and portraying him as disruptive and possibly uncooperative by not immediately identifying himself. Conversely, it presents Noem's statements and actions positively. The focus on ICE's increased arrests during "blue city" riots also aligns with a common right-wing narrative. ## 3. Language and Framing Suggesting Right-Wing Bias: ## "Lunging" at the podium: This word choice implies aggression and disruptiveness on Padilla's part. ## "Forcibly removed," "pushed out of the room," "handcuffing": These phrases emphasize the physical intervention by authorities, creating a sense of Padilla deserving punishment. ## "Socialist and burdensome leadership": Noem's quote directly attacks the political ideologies of those governing Los Angeles, a common target of right-wing rhetoric. ## "Liberate this city": This framing uses strong, emotionally charged language associated with right-wing narratives of rescuing cities from liberal governance. ## "Blue city riots": This term frequently appears in right-wing media, associating urban unrest with Democratic-controlled areas. ## "ICE ramps up arrests of convicted criminals": Presenting this as a positive action implicitly supports a stricter approach to immigration enforcement, a common right-wing stance. ## "Source and Headline": The article is from Fox News, a known right-leaning news source, and the headline emphasizes the forcible removal of the senator, immediately setting a negative tone. ## 4. Reliability of the Bias Prediction: The 51.33% confidence score for "right" bias indicates a moderate level of certainty. While the article clearly exhibits right-leaning framing, a 35.30% score for "left" suggests some elements could be interpreted differently. This discrepancy might arise from the factual basis of the event itself: The physical removal of a senator is a significant event that could be interpreted differently depending on the viewer's political perspective. A more nuanced analysis would involve cross-referencing with reports from other news outlets to gain a more comprehensive understanding of the incident. ## 5. Tips on Critically Reading this Article: ## "Consider the source": Recognize Fox News's established right-leaning bias. ## "Look for alternative perspectives": Read reports from other news organizations (e.g., Associated Press, Reuters, The New York Times) to compare their framing and accounts of the incident. ## "Analyze word choice and framing": Pay attention to emotionally charged language and how events are presented. ## "Identify potential biases": Consider whether the article presents a balanced view or focuses primarily on one side of the story. ## "Verify facts": Check the accuracy of claims made in the article against reputable sources. ## "Consider the context": Understand the broader political landscape and the ongoing issues surrounding immigration and law enforcement. By employing these critical reading skills, one can better assess the objectivity and potential biases present in news articles, allowing for a more informed understanding of the events reported.

Live Demo

GitHub Repository

Project Experience

- 3 person Agile workflow
 - Scrums and sprints
 - Work distribution based on strength and preference
- Frontend design
 - HTML
 - Flask
- Debugging challenges
 - Gemini API debugging
 - NewsAPI.AI



Internship Experience

Overall, this was a amazing learning experience and a great opportunity to apply the skills learned in classes or individually.

- Learning about Artificial Intelligence
 - Capabilities and limitations
 - Training and testing
 - The value of data
 - Ethics and worldly concerns
- Teamwork
 - Agile, sprints and scrums
 - Team coordination
- Challenges
 - API Debugging
 - Server crashes

Thank You.