

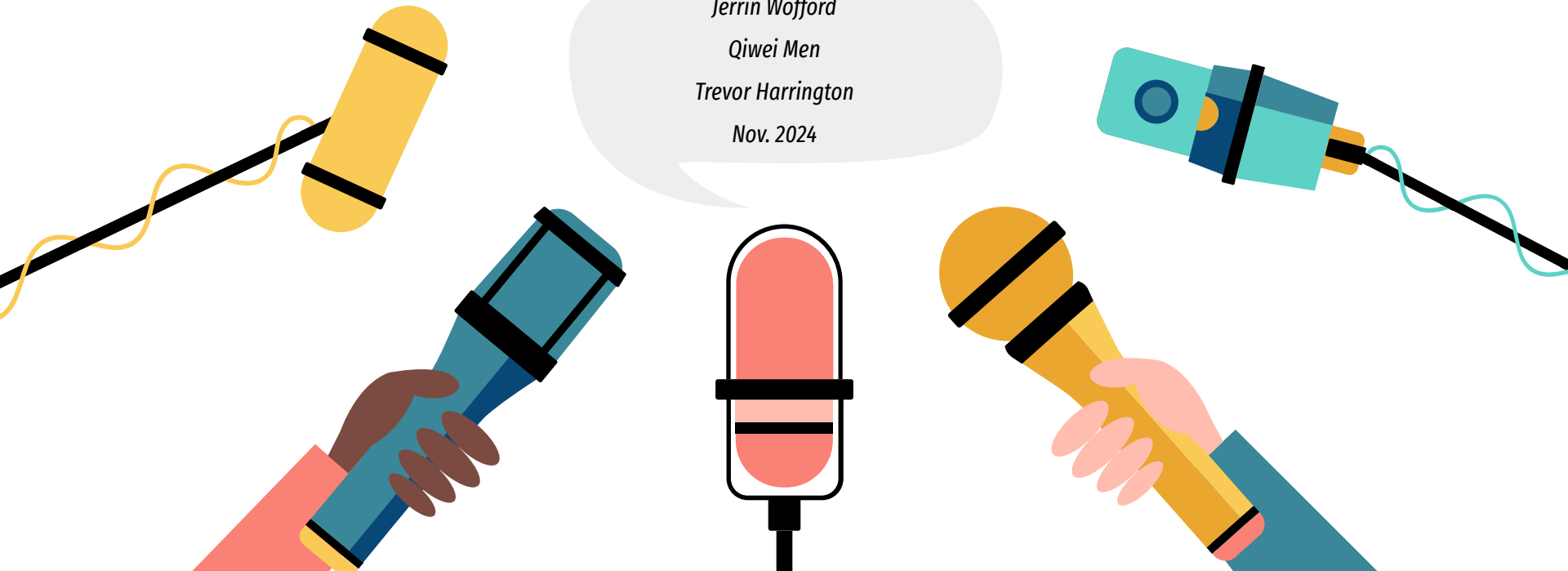
Media Bias & News Summary

Jerrin Wofford

Qiwei Men

Trevor Harrington

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Why Media Bias Matters

2M

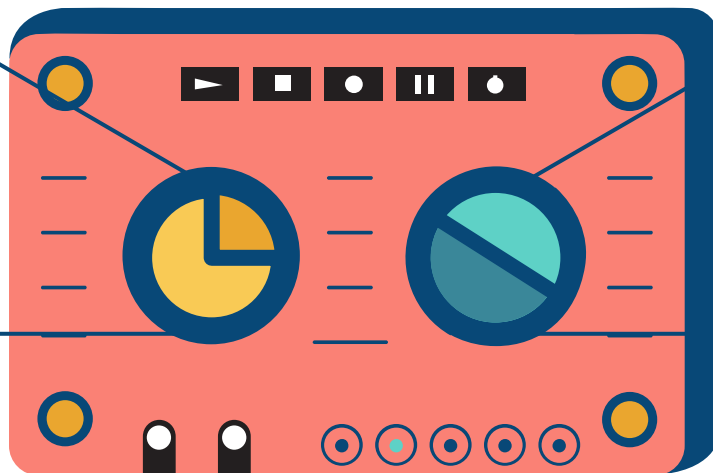
News

According to MarketingProfs, more than 2 million articles are published every day on the web.

86%

Bias

86% of Americans believe news organizations are biased when covering political and social issues



35,000
Decisions

On average, a person makes about **35,000** decisions per day

0

Acknowledgement

Almost no media tell their audience about their biases.

Data



This dataset includes 2225 BBC news articles from 2004 to 2005 across five topical areas, each paired with a human written summary.





Contributions

Claim1: ChatGPT 4.0 is able to summarize an news article equivalently to a human being and can provide equal or higher information coverage compared to human work.

Claim 2: ChatGPT 4.0 is able to correctly classify an news article into one of the five bias group and has a equivalent or higher accuracy compared to pre-trained media bias classifiers

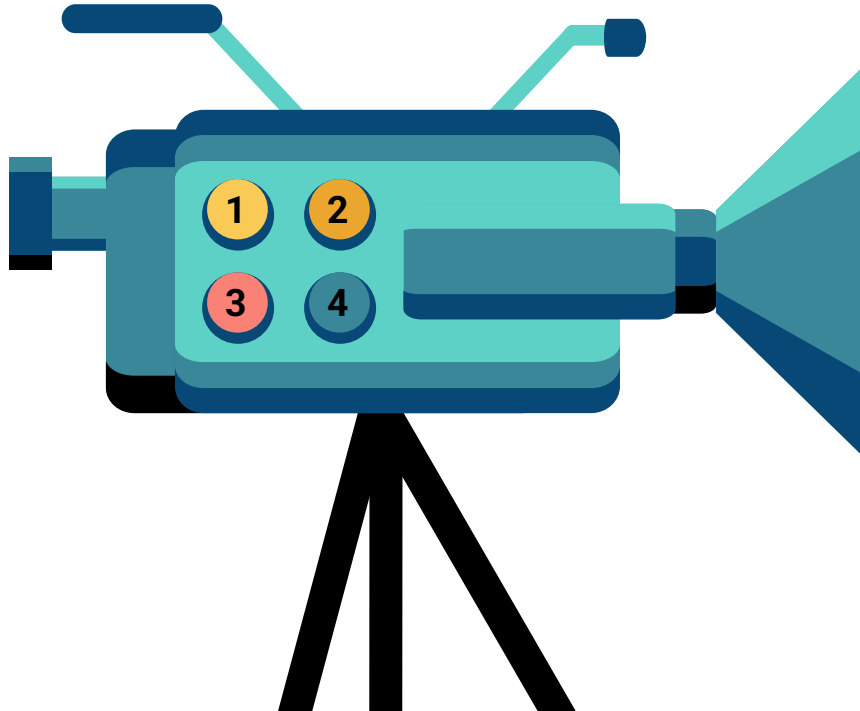
Claim 3: The bias results based on the ChatGPT summary will (not) be deviated from the results based on the original article.

T

J

M

Claim 1 : ChatGPT Can Produce Accurate Summaries



1. Generate summaries from Chat GPT

1

2. Calculate the BERT score between Human and ChatGPT-generated summaries

2

3. Compare the Information Coverage scores of Human and ChatGPT-generated summaries

3

4. Results and Conclusions

4

News Summarizations

Original Article

Title: Labour plans maternity pay rise

Maternity pay for new mothers is to rise by £1,400 as part of new proposals announced by the Trade and Industry Secretary Patricia Hewitt.

—Omitted 313 words—

Ms Hewitt also stressed the plans would be paid for by taxpayers, not employers. But David Frost, director general of the British Chambers of Commerce, warned that many small firms could be "crippled" by the move. "While the majority of any salary costs may be covered by the government's statutory pay, recruitment costs, advertising costs, retraining costs and the strain on the company will not be," he said. Further details of the government's plans will be outlined on Monday. New mothers are currently entitled to 90% of average earnings for the first six weeks after giving birth, followed by £102.80 a week until the baby is six months old.

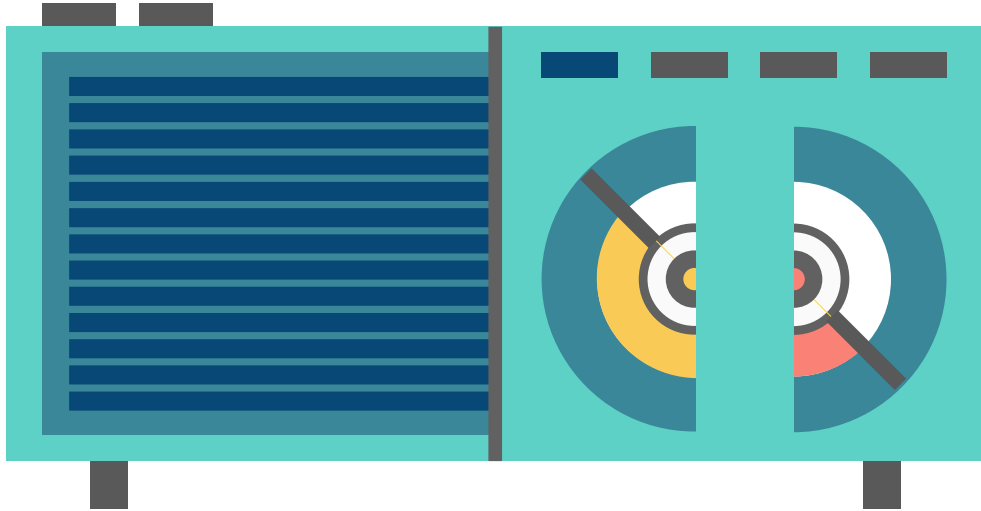
Human Summary

She said her party would boost maternity pay in the first six months to allow more women to stay at home in that time. She said new mothers were already entitled to 12 months leave, but that many women could not take it as only six of those months were paid. The Tories dismissed the maternity pay plan as "desperate", while the Liberal Democrats said it was misdirected. She said ministers would consult on other proposals that could see fathers being allowed to take some of their partner's maternity pay or leave period, or extending the rights of flexible working to carers or parents of older children. Liberal Democrat spokeswoman for women Sandra Gidley said: "While mothers would welcome any extra maternity pay the Liberal Democrats feel this money is being misdirected." "We will definitely extend the maternity pay, from the six months where it now is to nine months, that's the extra £1,400." Ms Hewitt said: "We have already doubled the length of maternity pay, it was 13 weeks when we were elected, we have already taken it up to 26 weeks. Other plans include letting maternity pay be given to fathers and extending rights to parents of older children.

ChatGPT Summary

The UK Labour Party is proposing to increase maternity pay for new mothers by £1,400, extending paid leave from six months to nine months by 2007, as announced by Trade and Industry Secretary Patricia Hewitt. The aim is to eventually reach 12 months of paid maternity leave. Hewitt stated that current maternity leave is often not fully utilized due to pay limitations, as only six months are currently paid. The proposals also include options for fathers to take some maternity leave or pay, and plans to extend flexible working rights to parents of older children. The Conservative Party criticized the proposal, calling it a "desperate" move to gain women voters, while the Liberal Democrats deemed the funding misdirected. They suggested that any increase should focus on enhancing pay during the first six months of leave instead. Hewitt clarified that taxpayer funding would support these changes, not employers, but the British Chambers of Commerce warned that small businesses could struggle with the associated costs of recruitment and training. Further details of the proposals will be released soon, with current maternity pay at 90% of average earnings for the first six weeks and £102.80 until six months postpartum.

Information Coverage (IC) Comparison



88%

Human

Human
summarization
provides higher IC

68%

ChatGPT

ChatGPT
provides, on
average, less IC

Claim 2 : Chatgpt-4o Can Identify The Media Bias



1. Detect bias in the article with GPT 3.5 turbo

1

2. Detect bias in the article with GPT 4o mini

2

3. Compare the bias detection results from different models

3

4. TF-IDF Analysis of the ChatGPT Explanation

4

Media Bias Spectrum

Left

Support progressive reforms for social welfare

Far Left

Advocate for radical social and economic equality,



Neutral

Aim for balance and pragmatism

Right

Emphasize tradition and limited government

Far Right

Push for ultra conservative values and strong national identity.

Bias Detection Result Comparison

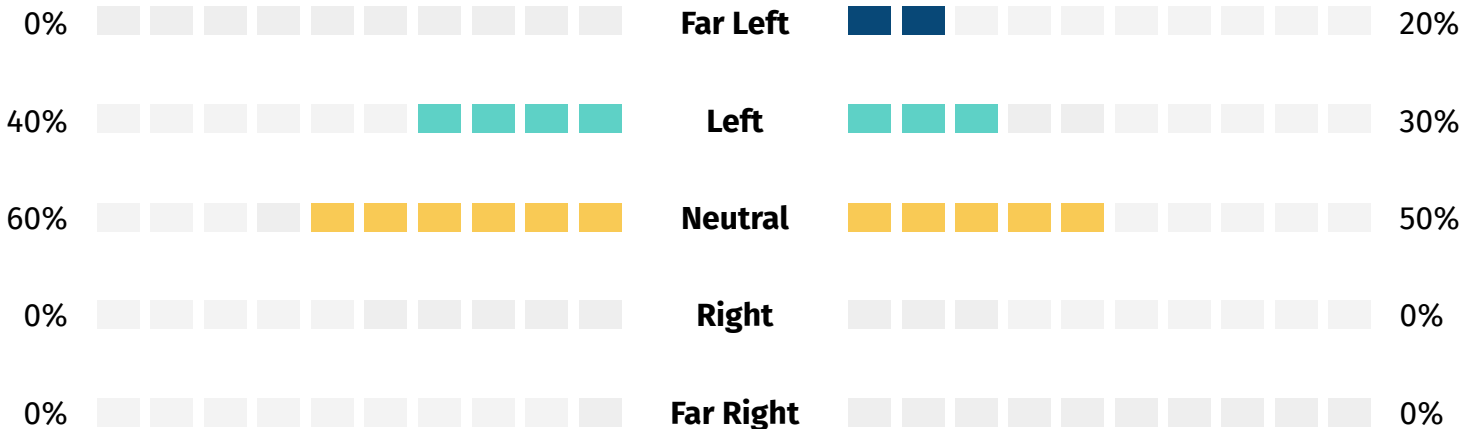
GPT 3.5 Turbo

vs

GPT 4o Mini

GPT 3.5 was first released in
Nov. 2022

GPT 4o Mini was first released
in Mar. 2023



TF-IDF Analysis of the ChatGPT Explanation



Claim 3 : Chat Gpt-4o Can Preserve the Bias in Summarization Process



1. Detect bias based on the original article with ChatGPT (already done in claim 2)

2. Detect bias based on ChatGPT generated summaries

3. Analyze if the bias detection results form summaries deviate from the results from original articles

1

2

3

Bias Position Deviation

Bias Detected from Article

vs

Bias Detected from Summary

Bias detected from the original article was used as the Baseline

Bias detected from the summary may deviate from the baseline

Article 1 

0



Article 2 

-1



Article 3 

0



Article 4 

0

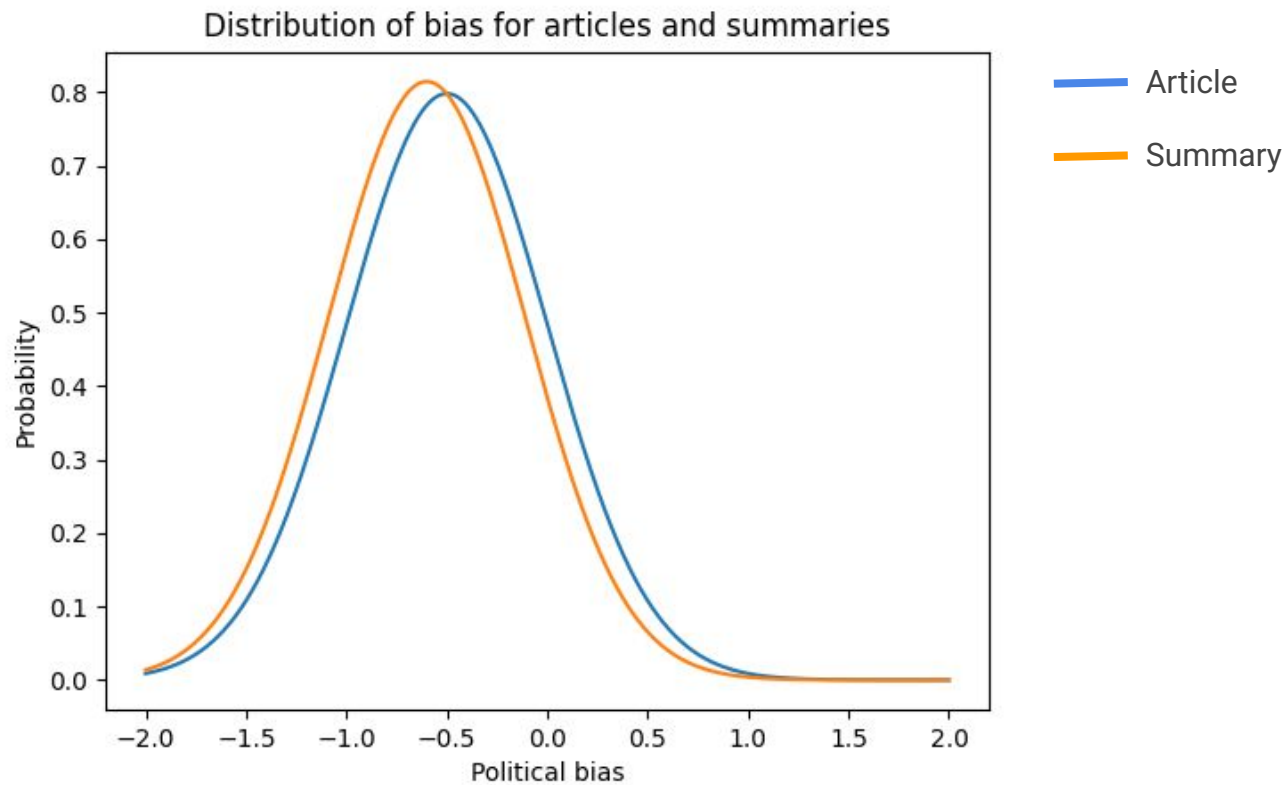


Article 5 

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Bias Deviation





Thank you!

Github:

<https://github.com/jerrinw1110/news-chatbot>