

1. Refine Your Prompt

Prompt 1

Determine whether this news article is real or fake based on the title and text. Ignore any URLs in the text and decide only from the content of the article. Think about what you'd expect a real news article to look like and compare it with this article. Analyze the article structure, style, tone, and biases to justify your answer.

This prompt is very similar to the original prompt, but I tried to make it more concise to see whether a simpler prompt might give a better solution. From what I tested, it seems that this prompt performs worse than my original prompt as it misidentifies more articles. This could also be due to the fact that I changed the features to be more concise, but overall it appears that the new prompt is overly concise/simplified.

Prompt 2

Read this news article and do the following steps. Do not look any information up, decide purely based on the content of the articles:

- 1. Analyze the information in the article and whether it is believable or not**
- 2. Analyze the professionalism and structure of the article**
- 3. Analyze the tone of the article and whether there are any biases present**
- 4. Analyze the article's use of evidence to see if it uses reliable sources and factual information**
- 5. Based on the previous steps, decide whether the article is likely to be real or fake**

This prompt attempts to use a more step by step thinking process that somebody might be taught in school to figure out whether the article is real or fake. Since LLMs generally benefit from thinking through things step by step, I wanted to give the LLM some general guidance on how to decide whether the article is real or fake. Overall this LLM did a good job of the first four steps of analyzing the news articles, but rarely identified news as fake telling me that it was more biased to saying news was real even if its analysis pointed to it being fake.

Prompt 3

Determine whether this news article is real or fake based on the title and text. Ignore any URLs in the text and decide only from the content of the article. Analyze the language, tone, and content of the article and justify your reasoning. Here are two main categories of fake news:

- 1. Deliberately inaccurate stories – that is, the people publishing them know them to be false but publish them anyway. This might be to manipulate public opinion or to drive traffic to a specific website.**
- 2. Stories that contain elements of truth but are broadly inaccurate. This might be because the writer hasn't checked all their facts or has exaggerated certain aspects to make a particular point.**

For this prompt I looked up online what might be a good tell of whether a news article is real or fake. From the website [How to Identify Fake News](#), I copy and pasted the two categories that were said to be common in fake news. These categories resonated with me because the LLMs were often misidentifying the second categories of fake news as real news, mistaking elements of truth to be real news. This prompt performed the best out of all of my prompts since it was able to better recognize how elements of truth could be snuck into fake news articles.

2. Test on Multiple Articles (Using Prompt 3 since it performed the best)

LLM Responses (ChatGPT)

Article 1

Title: Trump Just Made A Major Threat To The Press, Jake Tapper's Response Is Perfect (VIDEO)"

Ground Truth: Fake

LLM Prediction: Fake

LLM Justification:

Based on analysis of the language, tone, and content, this article appears to fall into Category 2 of fake news: stories that contain elements of truth but are broadly inaccurate or exaggerated.

Analysis:

Elements That Are Based in Truth:

- Trump's criticisms of the media are well-documented. In 2017, he did suggest looking into revoking the licenses of media organizations like NBC.
 - Jake Tapper did respond on CNN with references to the U.S. Constitution, defending press freedom.
 - The incident involving Rex Tillerson allegedly calling Trump a "moron" and reports of Trump wanting to expand the nuclear arsenal were widely covered by credible news outlets at the time.
-

Language and Tone Concerns:

- The article uses highly emotional, loaded, and editorializing language, such as:
 - "Trump has no idea how the country works"
 - "fragile ego"
 - "acting like a baby"
 - "one of the most brilliant responses"
 - "shred Trump"
- These are opinion statements, not objective reporting. This tone suggests bias and intent to inflame or persuade rather than inform.

- The piece lacks proper attribution and sourcing beyond a vague reference to a CNN video. It also provides no direct quotes from NBC or full context of Trump's remarks.
-

Red Flags for Broad Inaccuracy:

- The claim that Trump wanted to increase the nuclear arsenal "tenfold" was denied by multiple officials and was contested at the time.
 - The suggestion that Trump could unilaterally "take away the press's broadcasting license" is technically misleading — presidents do not have that direct power.
 - The article implies clear intentions or emotions (e.g., "because his fragile ego can't handle it") without evidence. This speculative language is typical of fake or biased news.
-



Conclusion:

This article is not a fully fabricated story, but it heavily leans on exaggeration, speculation, and emotionally charged language without proper sourcing. Therefore, it is not trustworthy as a factual news report and should be classified as:

Fake news – Category 2: A story containing elements of truth but broadly inaccurate and designed to mislead or provoke rather than inform.

Article 2

Title: "Sources Confirm Robert Mueller's Office Interviewed Jared Kushner Several Weeks Ago"

Ground Truth: Fake

LLM Prediction: True

LLM Justification:

Based on the content, language, tone, and context, this news article appears to be real. Here's the reasoning:

✓ Reasons Supporting Authenticity:

1. Specific Details and Names

- The article provides specific dates, names, and roles of individuals involved: Jared Kushner, Michael Flynn, Abbe Lowell (Kushner's lawyer), Jay Sekulow (Trump's lawyer), Robert Mueller, and others.
- References are made to real events: Mueller's investigation into Russian interference, Flynn's business dealings, and Kushner's advisory role.

2. Sourced Information

- The article cites "a source familiar with the process" and public statements (like those from Kushner's attorney and Jay Sekulow), which are typical of real reporting when covering confidential investigations.

3. Plausible Context

- The article references real developments from the Mueller investigation (e.g., grand jury activity, plea deals, shifting legal strategies) that align with documented historical events during 2017.

4. Balanced Presentation

- Although the article includes a slight editorial tone in one line (e.g., "not that Donald Trump has ever been particularly concerned with matters as trivial as ethics"), it generally maintains a factual and explanatory tone.

- Most of the article is informational, not emotional or sensationalist.
-

Minor Concerns

- That sarcastic comment about Trump's ethics could suggest some editorial slant, which is common in news analysis or political reporting but can challenge strict objectivity.
 - The article references unnamed sources and internal legal strategy assumptions (e.g., about Flynn's potential plea deal), which are speculative, but such reporting is common in major investigative journalism when dealing with sensitive or sealed information.
-

Conclusion

This article does not exhibit clear signs of being fake under either of the two main categories you described:

- It is not a deliberate fabrication, as it aligns with publicly known events and provides detailed, sourced information.
- It is not broadly inaccurate, even if it includes some speculation—it reflects how legitimate news media reported on Mueller's investigation.

Verdict: Real news, likely from a credible source reporting on U.S. political investigations around late 2017.

Article 3

Title: Trump Just Made A Major Threat To The Press, Jake Tapper's Response Is Perfect (VIDEO)"

Ground Truth: Real (True)

LLM Prediction: Real

LLM Justification:

The news article titled "Democrats plan to use tax bill to attack Republicans at midterms" appears to be real, not fake. Here's a breakdown of why:

Language and Tone

- The tone is measured and neutral, consistent with mainstream journalism.
 - Quotes are attributed to named individuals (e.g., Tom Steyer, Alex Conant), and their political affiliations or roles are clearly identified.
 - There is no inflammatory or emotionally manipulative language typical of fake or highly biased content.
 - The article presents multiple perspectives, including both Democratic and Republican viewpoints.
-

Content and Factual Indicators

- The article references verifiable events and polls (e.g., Reuters/Ipsos poll, specific Senate races, tax legislation details).
- The political strategy discussed—using an unpopular policy to mobilize voters—is a common and realistic campaign tactic.
- Policy details, such as the tax cut for corporations and the wealthy, as well as the debate over fairness and deductions, are accurately summarized in a way consistent with known facts about the 2017 GOP tax law (Tax Cuts and Jobs Act).
- The mention of real individuals, like Doug Jones, Ralph Northam, and Tom Steyer, in relevant political contexts, adds credibility.

Balance and Objectivity

- The piece includes both Democratic criticism of the tax bill and Republican defense of it.
- It gives space to analysts and strategists on both sides to interpret the political impact.
- It does not assert a single narrative but acknowledges the complexity and uncertainty surrounding political outcomes.

Conclusion

There is no evidence of fabrication, exaggeration, or malicious misinformation in the article. It reads like a standard political news report, likely published by a legitimate outlet such as Reuters (as cited in the byline).

Verdict: Real news article.

Article 4

Title: New Hampshire Cops Intent On Protecting Sadistic Racist White Teens Who Tried To Lynch A Biracial Boy

Ground Truth: Fake

LLM Prediction: Fake

LLM Justification:

Based on a detailed analysis of the language, tone, and content of this article, the article appears to fall under Category 2: Stories that contain elements of truth but are broadly inaccurate—meaning it is not entirely fake, but it is highly sensationalized and potentially misleading.

What appears to be true or based on real events:

- There was a real incident in Claremont, New Hampshire, in August 2017, in which a biracial 8-year-old boy was injured after a group of teens reportedly attempted to hang him with a rope.
 - The case did receive some national media attention, and the boy was flown to a hospital.
 - The police did not initially file charges immediately, which led to criticism and public outcry, especially from the family and local community.
 - The mother did post pictures on social media showing the boy's injuries.
-

What suggests the article is misleading or sensationalized:

- The headline is inflammatory and loaded:

“New Hampshire Cops Intent On Protecting Sadistic Racist White Teens...”

This uses emotive, accusatory language without objective framing, suggesting a bias or intent to provoke anger rather than inform.

- The tone of the article is outraged and editorial, not journalistic. Phrases like:

- **“horrific little racists”**
 - “attempted murdering racists”**
 - **“Make it go national until they have no choice but to act”**

These are calls to action and expressions of opinion, not neutral reporting.
 - **Lack of journalistic structure:**

There is no balanced perspective, no quotes from law enforcement, and no sourcing beyond a single grandmother’s secondhand account.
 - **Overgeneralization and emotional framing:**

Statements like “lynchings of black people still happen, just as they did during Jim Crow” are overly broad and frame the incident within a historical narrative without establishing direct relevance.
-

Conclusion:

This article is not a complete fabrication—it is based on a real incident. However, the presentation is sensational, exaggerated, and lacks journalistic balance, which can distort the facts and mislead readers about the specifics and context of the event.

Verdict: Broadly inaccurate and misleading (Category 2 fake news).

Article 5

Title: U.S. Treasury tax study slammed as 'fake math' by Democrats

Ground Truth: Real (True)

LLM Prediction: Real

LLM Justification:

Based on the title and content of the article, this article appears to be real, not fake news. Here's a breakdown of the reasoning behind that assessment:

Language and Tone Analysis

- **Neutral, reportorial tone:** The article uses standard journalistic language, avoiding emotional or overly dramatic phrasing. It presents quotes from multiple sides (Treasury, Democrats, independent analysts).
 - **Use of attributions:** Claims and criticisms are clearly attributed to sources — e.g., "Senate Democratic leader Chuck Schumer said...", "The Committee for a Responsible Federal Budget said...".
 - **Balanced perspective:** While it highlights criticism of the Treasury's analysis, it also provides the Treasury's own rationale and statements. This balance is characteristic of legitimate news reporting.
-

Content and Factual Indicators

- **Cites known public figures and institutions:**
 - Steven Mnuchin (U.S. Treasury Secretary at the time)
 - Chuck Schumer (Senate Democratic leader)
 - Committee for a Responsible Federal Budget
 - Tax Policy Center
 - Wharton Business School
- **Discusses real legislation:** The article references the actual tax reform efforts of 2017, which were a significant and well-documented political issue.
- **Economic figures are plausible:**
 - 2.9% projected growth
 - \$1.5 trillion estimated impact on the debt
 - These numbers align with known public estimates at the time.

Reasoned Judgments vs Exaggeration

- The article does not make sensational or clearly false claims. It acknowledges disputes over projections, which is common in economic debates.
 - The phrase "fake math" is used as a quote, not as the article's own language. That quote is attributed to political opponents, not treated as a fact.
-

Summary of Key Characteristics

Criterion	Assessment
Factual basis	Yes – grounded in real people/events
Attributed sources	Yes – quotes with names and affiliations
Neutral language	Mostly neutral, avoids sensationalism
Evidence of exaggeration/fabrication	No – differences in forecast are typical in policy debate
Known context support	Yes – matches real events from late 2017

Conclusion: REAL NEWS

This article is not fake. It appears to be a legitimate news report, possibly from a major outlet like Reuters or the Associated Press, providing an account of the release and reception of a U.S. Treasury Department analysis related to Republican tax reform proposals in 2017. The political disagreement over economic projections is accurately framed as a policy dispute, not presented as objective truth or misinformation.

Article 6

Title: GOP Columnist Bill Kristol Has The Goods On How Republicans REALLY Feel About Comey's Testimony

Ground Truth: Fake

LLM Prediction: Fake

LLM Justification:

Based on the language, tone, and content of the article, this article appears to fall under the second category of fake news:

Stories that contain elements of truth but are broadly inaccurate or exaggerated.

Here's a detailed analysis:

Language and Tone Analysis

- **Highly emotional language:** Phrases like “they are shitting their pants,” “sold their souls,” “lied through their teeth,” and “saving their proverbial political asses” are all informal, inflammatory, and highly opinionated. Legitimate news sources, especially reputable ones, typically avoid such emotionally charged and vulgar expressions unless they are quoting someone directly—and even then, they contextualize it carefully.
- **Lack of neutrality:** The article does not attempt objectivity. It uses sarcasm (“nothing to see here, folks”), dismissive phrasing (“perhaps most pathetically of all”), and sweeping generalizations (“they care more about saving their proverbial political asses than they do about this country”). This strongly suggests editorializing rather than reporting.
- **Appeals to emotion rather than fact:** The tone seems crafted to provoke outrage, not inform. This is a red flag when assessing news reliability.

Content Analysis

- **Element of truth:**

- Bill Kristol is a real conservative columnist and was editor of *The Weekly Standard*.
He did tweet criticism of the GOP regarding Trump and Russia.
- James Comey did testify before Congress in June 2017.
There was indeed media coverage on GOP responses to the testimony.
- But the interpretation is heavily biased and speculative:
 - The article extrapolates a single tweet from Kristol into a sweeping judgment of the entire Republican establishment.
 - It claims GOP Senators are “terrified” based only on Kristol’s account, without corroborating evidence.
 - It misrepresents the *Politico* article by implying that Kristol’s tweet is a direct rebuttal to it, which may not be the case.
 - There’s no real investigative reporting, sourcing, or balanced commentary—only a confirmation of the author’s opinion.

✓ Conclusion

This article is likely fake news of the second type: a story with some factual basis but presented in a misleading, exaggerated, and heavily opinionated manner.

It blurs the line between commentary and journalism, misleads by overinterpreting limited information, and uses manipulative rhetoric. While not a total fabrication, its lack of journalistic standards, heavy bias, and speculative claims make it unreliable as a factual news source.

Table of Results

Prompt	Article 1 (Fake)	Article 2 (Fake)	Article 3 (Real)	Article 4 (Fake)	Article 5 (Real)	Article 6 (Fake)	Accuracy
0 (original)	✓	✗	✓	✓	✓	✓	83%
1 (concise)	✓	✗	✓	✗	✓	✓	67%
2 (step by step)	✗	✗	✓	✓	✓	✗	50%
3 (best)	✓	✗	✓	✓	✓	✓	83%

3. Reflect

After testing each of the four prompts against the same six articles, the original prompt I created as well as the prompt that included different categories of fake news performed the best. All of the prompts correctly identified the real articles, but were more biased to labeling the articles real rather than fake. This means that all of the misclassified articles were false positives (the article was fake but was labeled as real). All of the prompts were unable to classify Article 2 as fake, an article I purposefully chose because I thought it was harder to classify as fake. Still, I think there were some signs this article was fake and believe that the LLM was overly biased towards labeling articles as real. I believe that the LLM is more likely to produce false positives because if it has any uncertainty in its answer, it defaults to believing the article is real rather than fake.

Since the LLM was able to flag some concerns about Article 2, it is able to recognize biased and unprofessional remarks. So to improve the prompt, you could tell the LLM to label any articles with biased or unprofessional remarks as fake. This could improve prompt accuracy, but also might not as it could lead to more false negatives. Another way to further improve prompt accuracy, is to give the LLM an example input and output to show what might show a real or fake news story. The output would have an explanation of different features that stand out to classify it as real or fake, helping make the task more clear.

Based on the performance of the LLM on these articles, the LLM could definitely support fact checkers in real life. The LLM did a good job at detecting any sentences that contained heavy bias or hinted at the news being fake. On the other hand, humans are prone to error and could easily overlook a single sentence containing bias, especially when looking through many news articles. In this way, LLMs could definitely be used as a tool to support fact checkers in real life, but since the LLM is not perfect and can also make mistakes, it cannot completely replace the fact checker. Based on the LLM's current performance, I would recommend using it after checking the article itself to double check whether you missed any sentences that could show fake news. With some more tuning and prompt engineering it is possible for the LLM to become a fact checker itself, but it would need to be heavily tested and monitored.