

### 3. Prompt Engineering & LLM Evaluation

#### Full Prompt

Determine whether these news articles are real or fake based off of the title and text. Do not look any information up, decide purely based on the content of the articles. Analyze the article structure, tone, word choice, professionalism, topic, and any other features that would differ between fake and real news. Justify your answer, explaining which features informed your decision.

Article 1:

Donald Trump's Eating Habits Could Be Dramatically Affecting His Wellbeing And Our Safety

"We've all heard the stories of Donald Trump preferring a well-done steak with ketchup and shunning any new delicacies, despite living a lifestyle that offers him all the luxuries one could ever desire, however, it's not just that the President has terrible gastronomical taste, a new memoir suggests that his diet is one of several poor lifestyle choices that could very well shorten his life. According to an excerpt from *Let Trump be Trump*, an upcoming book by Trump's former campaign manager Corey Lewandowski and aide David Bossie, we get to enter the inner circle where the President of the United States having a 2,400-calorie McDonald's dinner is par for the course. Trump's appetite seems to know no bounds when it comes to McDonald's, with a dinner order consisting of two Big Macs, two Filet-O-Fish, and a chocolate malted, is just one of the claims made in the book. To put that meal in perspective, Trump's dinner contains 3,400 grams of sodium, despite the American Heart Foundation recommending just 1,500 grams per day, plus enough white bread to last most people a week. Remember, this is just one meal, but it only gets worse. On *Trump Force One* there were four major food groups: McDonald's, Kentucky Fried Chicken, pizza, and Diet Coke, the authors write about traveling with Trump during the early days of his presidency, but there may be a valid reason for it. Not only is he a fan of manufacturing, Trump is also a renowned germaphobe who allegedly won't eat from a package that has already been opened, which would also explain the plane's cupboards being stacked with Vienna Fingers, potato chips, pretzels, and many packages of Oreos. Those well-done steaks make a little more sense now, as well. But a little bit of bacteria is probably the least of the President's worries. This is a 71-year-old man who gets next to no exercise (it's hard to include his golf when he barely even walks while playing), gets very little sleep, and is constantly throwing tantrums, so add in that diet and you have the perfect recipe for a heart attack. The diet alone, especially the snacks, is almost an open-invite for diabetes, too. What makes this frightening for the rest of us is that this is a man who is currently responsible for a nuclear standoff with North Korea, as well as dealing with rapidly warming oceans and an ever-increasing tax bill. If he has this lack of concern for his own wellbeing, then what does it say of his risk-assessment abilities? Featured image via Win McNamee/Getty Images"

Article 2:

Man says he delivered manure to Mnuchin to protest new U.S. tax law

"(In Dec. 25 story, in second paragraph, corrects name of Strong's employer to Mental Health Department, not Public Health Department.) By Bernie Woodall (Reuters) - A man claiming to

be the person who delivered a gift-wrapped package of horse manure at the Los Angeles home of U.S. Treasury Secretary Steven Mnuchin said on Monday he did it to protest the federal tax overhaul signed into law last week by President Donald Trump. Robert Strong, 45, a psychologist for the Los Angeles County Mental Health Department, said by telephone he left the poop-filled parcel addressed to Mnuchin and Trump in the driveway outside Mnuchin's home in the posh Bel Air community. KNBC-TV, an NBC television affiliate in Los Angeles, reported Mnuchin was not home at the time. The package was found by Mnuchin's neighbor. "Protest really should be funny," Strong told Reuters. "People's eyes glaze over when they just see angry people in the streets." He believes the new tax law will hurt poor people. Neither the U.S. Secret Service nor the Los Angeles Police Department, both of which investigated the incident, would confirm Strong was responsible. The Secret Service interviewed an individual who admitted delivering the package, but no charges had been filed against him as of Monday afternoon. LAPD Lieutenant Rob Weise said it was possible whoever left the package did not break any criminal laws. While he is not assigned to investigate the incident, Weise said if the box did not present any danger, it would not be illegal. The LAPD bomb squad X-rayed the box before opening it on Saturday. In a photo of the card Strong posted on Twitter, he wrote "Misters Mnuchin & Trump, We're returning the 'gift' of the Christmas tax bill" and signed it "Warmest wishes, The American people." Strong said a Secret Service agent, accompanied by six police officers, showed up at his house to question him on Sunday night, and the agent chided him, asking, "Are you ashamed of your behavior?" The White House declined to comment on Monday and officials with the Treasury Department could not be reached. "

## LLM Response (ChatGPT)

Based purely on analyzing structure, tone, word choice, professionalism, and internal logic, here's an assessment of whether the two articles are likely real or fake — without checking external sources.

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### Article 1:

Title: *Donald Trump's Eating Habits Could Be Dramatically Affecting His Wellbeing And Our Safety*

✅ Assessment: Likely Fake or Heavily Biased Opinion Piece

#### Reasons:

##### 1. Sensationalist Tone & Language:

- The title connects Trump's diet not just to his health, but to national safety, which is an exaggerated leap.
- Terms like *"terrible gastronomical taste"*, *"perfect recipe for a heart attack"*, *"constantly throwing tantrums"*, and *"open-invite for diabetes"* show a strongly opinionated, emotional tone rather than objective reporting.

##### 2. Structure & Style:

- The article blends fact with speculation and editorializing, without separating the two.
- It lacks journalistic balance; no attempt is made to present Trump or his team's perspective, which real journalism typically includes.

##### 3. Questionable Professionalism:

- The tone is more akin to a blog post or satirical editorial than a legitimate news article.
- Phrases like "Remember, this is just one meal, but it only gets worse," feel informal and dramatized.

##### 4. Underlying Narrative Bias:

- The argument that Trump's diet reflects his risk-assessment skills in geopolitical contexts (e.g., North Korea) is a logical fallacy (non sequitur).

It's speculative and not journalistic.

🔍 **Conclusion:** While this article references a real book (“Let Trump Be Trump”), the tone, structure, and exaggeration suggest this is either a fake article or a biased commentary disguised as news.

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## Article 2:

**Title:** *Man says he delivered manure to Mnuchin to protest new U.S. tax law*

✅ **Assessment:** Likely Real

**Reasons:**

### 1. Neutral Tone & Professionalism:

- The article is written in a restrained, factual tone.
- It includes attributions (e.g., “Strong told Reuters”), quotes, and procedural details.

### 2. Journalistic Structure:

- Follows standard reporting conventions: lead paragraph with facts, background info, official comments (LAPD, Secret Service), and direct quotes from the person involved.
- There’s even a correction note at the top (about Strong’s employer), which is a common journalistic practice in legitimate outlets.


### 3. Plausible and Specific Details:

- Contains verifiable elements like job title, location (Bel Air), government agencies, and a direct quote from law enforcement.
- The story is unusual but not implausible — and it doesn’t push an agenda beyond what the subject of the article himself states.

### 4. Balanced Reporting:

- Includes lack of comment from the White House and Treasury — a sign of fair reporting.

- Notes that the authorities haven't charged the individual, indicating neutrality and factual restraint.

 **Conclusion:** This reads like a genuine, well-reported news piece, likely from a reputable outlet (e.g., Reuters, which is even mentioned). Nothing in the structure suggests fabrication.

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### **Final Verdict:**

- Article 1: Fake or biased/opinion masquerading as news
- Article 2: Real – structured, factual journalism

**Let me know if you want a more in-depth breakdown of any specific elements!**

### **Explanation of Prompt**

When designing this prompt I first wanted to ensure that the task was clear, but also concise. I tried to use language that let the LLM know that both of the articles could have been real or fake, instead of having the LLM compare the two articles since the LLM should not be using test data to inform its decision about what is real and fake. I then gave the LLM examples of features to look out for when determining whether an article was real or fake based on my own intuition (in practice these features would be modified based on what helps determine whether an article is real or fake). I also had it justify its reasoning and break it up into different features to encourage it to analyze more thoughtfully. I also omitted the subject and date information from each article as they added noise rather than helpful information in determining whether the news was real or fake.

#### 4. Short Analysis

The data shows that articles that use words like “reuters”, “state”, “government”, “new”, and “house” are more likely to be real while articles that use words like “people”, “one”, and “like” are more likely to be fake. Many of these words make sense, reuters is a real news platform that shares only real, fact checked news articles. Real news articles are also more likely to use more reputable sources such as people from the State or Government. On the other hand, fake news articles would be more vague and not directly use sources but rather just say “people”. Fake news also uses the word “like” a lot, showing a more informal tone (ex. Using the phrase “like last year...” instead of just saying “last year...”). In terms of article length, the real and fake news have a lot of overlap, but generally the real articles tend to be under 100 words or 1000 characters while the fake articles have a little under 250 words or 2500 characters. Fake articles also tend to have more extreme word/character lengths with many articles close to 0 or 2000+ in word length. The real and fake news have a lot of overlap in frequently mentioned named entities with ORG, GPE, and PERSON appearing most frequently. Notably, fake news uses PERSON a significant amount more than the real news which makes sense since they often call out names of people rather than confirmed sources. In general, fake news tends to use named entities more often than real news, with a much higher quantity of total named entities (possibly to make it seem more credible than it actually is).

In the future, to improve the data analysis/visualization, I would normalize the frequency of the words and remove the shared most frequent words in fake news and real news. These shared words do not give much insight on whether the article is real or fake, but rather shows what the popular topics in the news are. Similarly, I would remove named entities that are shared in both the real news and fake news to find which named entities are found more often in real news (such as Reuters) and which are found more in fake news (such as Twitter).

The LLM’s explanation does mostly align with these patterns, notably mentioning the attribution to Reuters and the use of “government agencies”. This aligns with the most common words found in real articles which make intuitive sense because words like “government” offer much more credibility and specificity. The LLM does not make any observations about the word/character count, which could make sense as there is strong overlap between real and fake news word/character count. The LLM also does not mention any of the top named entities discovered in analysis, but does point out named entities used in each of the articles such as Reuters and the book “Let Trump Be Trump”.