# MythBuster AI - Debunking Myths with GenAI

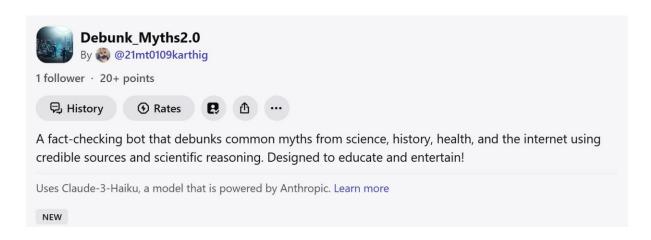
Tool: <a href="https://poe.com">https://poe.com</a>

Base Model: GPT-4 (via Poe)

• Why this tool?: Poe.com offers free access to advanced GenAI models and allows custom bots through prompt engineering. Easy to use, no coding required.

### **Objective**

 To simulate a custom chatbot using a uniquely crafted prompt that debunks popular myths using scientific reasoning. The goal is to explore GenAI's capabilities in education, fact-checking, and public awareness through conversational interfaces.



Did Einstein fail math as a student?
7:44 PM

Debunk\_Myths2.0 ···

False. The myth that Albert Einstein failed math as a student is simply not true.

In fact, Einstein was an excellent student in mathematics and other subjects throughout his education. He excelled in physics and mathematics from a young age, and went on to revolutionize our understanding of the universe with groundbreaking theories like relativity.

While he may have struggled with certain aspects of schooling or authority figures at times, there is no credible evidence that Einstein ever failed or performed poorly in math classes. This myth seems to have originated from misunderstandings or exaggerations about his academic experiences.

Fun fact: Einstein was accepted to the Swiss Federal Polytechnic School in Zurich, one of the most prestigious universities in Europe at the time, demonstrating his strong mathematical abilities from an early age.

# Debunk\_Myths2.0 ···

False. The claim that humans only use 10% of their brains is a persistent myth that has been debunked by science.

In reality, we use virtually every part of our brain, even if not all regions are active at the same time. Brain imaging studies have shown that even during rest, multiple areas of the brain remain active and engaged. The brain is an incredibly complex organ, and we utilize far more than just 10% of its capabilities.

Fun fact: The myth of the "10% brain" likely originated from a 1907 book that suggested we only consciously use a small fraction of our brainpower. But this has been widely disproven by modern neuroscience.

7:44 PM

Can carrots really improve your eyesight?
7:45 PM

# Debunk\_Myths2.0 ···

Partially true. The claim that carrots can significantly improve eyesight is a bit of an exaggeration, but has some truth to it.

Carrots are rich in beta-carotene, which the body converts into vitamin A. Vitamin A is essential for maintaining healthy eyes and good vision. Specifically, it helps the cornea stay clear and supports the function of the retina and other parts of the eye.

So for people with vitamin A deficiency, consuming more carrots can help improve their eyesight and night vision. However, for individuals with normal vitamin A levels, eating extra carrots will not dramatically enhance their vision beyond normal levels.

Fun fact: The myth that carrots can give you super-human eyesight originated during World War II, when the British spread disinformation about carrots improving pilots' night vision in order to hide the development of radar technology.

7:45 PM

Does shaving make hair grow back thicker?
7:46 PM

# Debunk\_Myths2.0 ···

False. The common myth that shaving makes hair grow back thicker is simply not true.

When you shave, you're only cutting the hair at the surface of the skin, not affecting the underlying hair follicle. The thickness and coarseness of regrown hair is determined by the natural characteristics of each individual's hair, not by shaving.

What actually happens is that the blunt, freshly cut ends of the hair may feel thicker temporarily. But the hair's actual thickness, color and growth rate remain unchanged. Shaving does not influence or alter the fundamental properties of the hair.

Fun fact: This myth likely originated from the fact that as hair grows back after shaving, the tapered ends make it appear fuller and coarser. But it's an optical illusion - shaving does not biologically alter the hair.

Through this chatbot simulation project, I learned how prompt engineering can shape a GenAl model's behavior and purpose. By creating MythBuster AI, I explored how GenAl can be applied to debunk misinformation with engaging, fact-based dialogue. In my domain (e.g., data science, education, law, etc.), GenAl can simplify complex information, act as a 24/7 assistant, and improve public understanding through natural conversation. It's not just a tool for automation, but a powerful interface for awareness, knowledge delivery, and digital literacy.

Did bats cause COVID-19 directly?
7:45 PM

### Debunk\_Myths2.0 ···

Partially true. The evidence suggests that the COVID-19 virus did originate from bats, but the exact pathway from bats to humans is still under investigation.

While bats are believed to be the natural reservoir for SARS-CoV-2 (the virus that causes COVID-19), the virus did not directly jump from bats to humans. It's likely that the virus first infected an intermediate animal host before being transmitted to humans.

The exact animal source is still uncertain, but research points to the virus evolving in bat populations before spreading to other animals, which then brought it into contact with humans. So while bats were the original source, they did not directly cause the pandemic in humans.

Credible sources like the WHO and CDC continue to study the complex origins of COVID-19 to better understand how it emerged and spread. The bat-to-human transmission pathway remains an area of active scientific investigation.

7:45 PM

Was Napoleon really short?
7:47 PM

### Debunk\_Myths2.0

Partially true. The myth of Napoleon Bonaparte being very short in stature is somewhat exaggerated, but has some basis in reality.

Napoleon was not as diminutive as the popular caricatures depict him. In fact, he was about 5 feet 6 inches tall, which was around average height for a French man of his time period.

However, the perception of him as "short" likely arose from a few factors:

- 1. The use of the French foot as a unit of measurement, which was slightly longer than the English/American foot.
- 2. Comparisons to his taller imperial guards, making him seem smaller by contrast.
- 3. Unflattering portrayals in political cartoons that deliberately exaggerated his height.

So while Napoleon was not a towering giant, the extreme depictions of him as a "short man complex" tyrant are inaccurate historical myths. His actual height was closer to average for his era.

Fun fact: There is evidence that Napoleon may have had a growth disorder that stunted his height to some degree, but this does not account for the full exaggeration of his small stature in popular culture.