

“OpenAI



Claude

or

Open-Source”



## A Cybersecurity Face-Off of Proprietary vs. Open-Source Large Language Models (LLMs)

**1. Introduction:** A cybersecurity experimental comparative analysis of proprietary vs. open-source LLMs focusing on prompt injection, data privacy/leakage and insecure output handling. Which LLM type is more secure & less susceptible to cybersecurity threats & vulnerabilities .

**2. Literature Review:** 50+ papers/journal articles reviewed. Gaps in literature - anecdotal evidence lacking validation, applications & LLMs lack real-world testing.

**3. Methodology:** Mixed method - 75% quantitative (experimental analysis), 25% qualitative (fairness, safety, trust & ethics).

**4. Findings & Results:** Early indicators show higher evaluation scoring of proprietary vs. open-source LLMs. Ethical issues are evident in proprietary LLMs whereas open-source LLMs are more transparent.

**5. Discussion:** Initial findings align to hypothesis H1 & H2.

H1: Proprietary Large Language Models (LLMs) have less vulnerabilities and are more resilient to cybersecurity threats...

H2: Open-Source Large Language Models (LLMs) offer more adaptability, public availability and community-driven transparency.....

Consider industry driven LLM testing aligned to governance & regulatory standards.

**6. Conclusion:** Commercialised and well resourced proprietary LLMs are more secure & suited to general users. Open-source suited to more specific communities. Similar analogy: Are you a Linux or Windows/Mac user?

**7. Recommendation:** Learn, upskill, test, consider ethical and regulatory obligations, Consider your LLM “use-case”.

