

Research Opportunity on LLM Hallucination

Description of project:

Large Language Model (LLM) hallucination refers to the phenomenon where LLMs, like ChatGPT, generate text that seems coherent and plausible but contains factual inaccuracies or fabricated information. LLM hallucinations can lead to the spread of misinformation, undermining trust and potentially causing errors in critical areas like healthcare, finance, and education. In this project, we aim to analyze how users with varying personal characteristics. (e.g., cognitive ability, demographics, and cultural background) interact differently with LLM-generated misinformation. We will explore how these factors influence users' susceptibility to false information produced by LLMs and their ability to recognize and correct such misinformation.

Roles and tasks:

We are looking for a UMBC student interested in working on this project. They will be supervised by UMBC faculty Drs. Shimei Pan and James Foulds (IS) and Dr. Charissa Cheah (Psychology) and will also gather input from personnel at Cyber Pack Ventures, Inc. (CPVI), who is funding the project with a grant from the National Science Foundation. Students will be hired by and work directly with CPVI, designing, developing, testing a prototype system and conducting a user study to analyze how individuals engage with LLM-generated false information and to write a report of their findings. The student will be given the opportunity to present their findings at an annual special workshop on cybersecurity supported by CPVI.

Nuts and bolts

- The project will begin as soon as we can assemble our team and proceed for the rest of the fall semester. It will also likely extend into the Spring semester.
- 10-20 hours/week depending on the students' availability.
- \$18-24/hour, depending on the background and level of the student.
- All work will be done remotely, with some options for in-person meetings.

This opportunity is open **to all graduate and undergraduate UMBC students studying Information Systems or Computer Science**. Skills and experience we are looking for include:

- Ability to design and develop web applications and deploy it on a web server.
- Experience in UX/UI/User research
- Experience in recruiting participants and conducting user studies.
- Excellent communication skills
- Academic success in computing, information systems or human-centered computing courses

Interested students should use the online form to apply:

https://docs.google.com/forms/d/e/1FAIpQLSf4fw-NVOFmZfTbF3Slwrtlc3dwbzV6MC66_xH9woSpF9HByw/viewform?usp=sf_link