"Learning Too Much About Me": A User Study on the Security and Privacy of Generative AI Chatbots

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Motivation

Generative AI Chatbots like ChatGPT, Copilot, and Gemini have disrupted our means of working. However, is everyone comfortable using them?

What security and privacy concerns do students at a large public US university have with adopting generative AI, and how can we overcome them?

Methodology

Online survey with *N = 86* students, faculty, and staff at the Georgia Institute of Technology, focused on experiences with Generative AI chatbots.

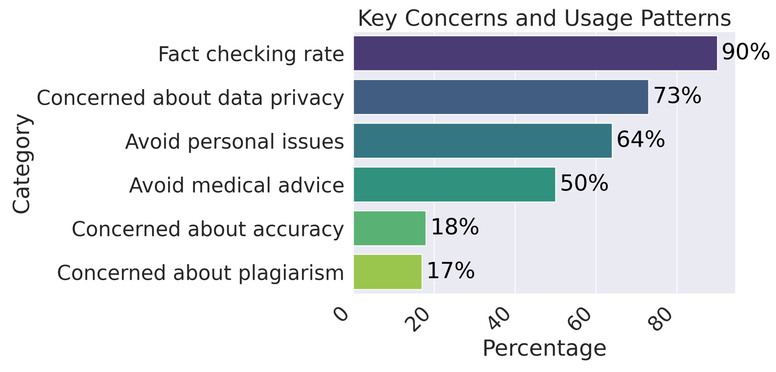
Topics addressed: Technology proficiency, levels of digital privacy concern and that of generative AI, products used, use cases, handling of sensitive queries, and use in academia.

Why look at students?

- Early adopters of technology
- Diverse backgrounds and academic / professional interests
- Soon to enter AI-integrated workplaces

Common Tasks

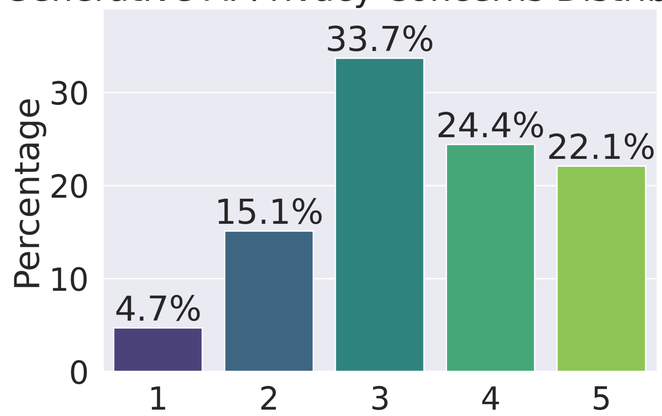
Concerns



College	Privacy Concerns	
	Overall	Chatbots
Computing	3.85	3.78
Design + Liberal Arts + Business	3.60	3.40
Engineering + Sciences	3.33	3.09

Table 1. Privacy Concerns by College (1 = Very Unconcerned. 5 = Very Concerned.)

Generative AI Privacy Concerns Distribution



1 = Very Unconcerned. 5 = Very Concerned.

Notable Trends

- **ChatGPT Plus** Paying users have more use cases.
- **Graduate Students** Fact-check more often than undergrads and get more writing help.
- **Faculty Usage Scenarios** Generating ideas for curriculum and assignments, reviewing literature, and increasing student exposure to AI.

Design Recommendations

- **Privacy Labels** Standard labels for data use policy
- **Privacy Enhancing Technologies** Differential privacy, secure hardware, and secure MPC
- **Prompt Engineering Education** Redacting secrets, asking for steps to validate results provided
- **Customizable Language Models** High integrity training data for regulated domains such as healthcare, finance, and law