

Cybersecurity Specialists' Perspectives on the Use of Generative AI in Professional Practice

The use of Generative Artificial Intelligence (Gen AI) in cybersecurity is receiving increasing attention, with existing research largely focusing on technical applications such as penetration testing, malware detection, and threat hunting. However, comparatively little is known about how cybersecurity specialists perceive Gen AI, how they currently use it in practice, and what challenges and opportunities they associate with its adoption. To address this gap, we conducted a qualitative study using semi-structured interviews with 11 cybersecurity specialists. The interviews explored participants' current work practices, their experiences and attitudes toward Gen AI, and their views on how Gen AI could support or improve their work. The interviews were transcribed and analyzed using a thematic analysis approach. In addition, a user experiment was included to capture insights into commonly used cybersecurity tools and to inform discussions about desired features and requirements for future Gen AI-based solutions. Our findings provide insights into practitioners' perceived benefits and barriers of Gen AI, as well as key requirements they consider essential for the effective and safe integration of Gen AI into cybersecurity workflows.

Author: Alexander Lindström

Co-authors: Leonardo Martucci,
Simone Fischer-Huebner,
Matthias Beckerle