

## **Nomination Statement: Best Scientific Cybersecurity Paper Competition**

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The paper titled “The Role of Artificial Intelligence (AI) in Improving Technical and Managerial Cybersecurity Tasks’ Efficiency” (<https://doi.org/10.1108/ICS-04-2024-0102>) by Ruti Gafni and Yair Levy, presents a pioneering study on the transformative role of AI in addressing the global cybersecurity workforce shortage. Given the increasing sophistication of cyber threats and the shortfall of over four million cybersecurity professionals worldwide, this paper provides timely and critical insights into how AI-driven automation can enhance cybersecurity operations. Through an exploratory field study, the authors systematically analyze AI's capacity to perform and support core cybersecurity tasks in both technical and managerial roles. By mapping commercial AI-integrated cybersecurity tools to specific work responsibilities, they demonstrate that AI is already capable of automating all 14 technical cybersecurity tasks and 11 out of 17 managerial tasks. This comprehensive assessment establishes a clear trajectory for how AI can optimize security operations, improve efficiency, and reduce workload burdens on cybersecurity professionals.

This study's originality lies in its empirical evaluation of commercially available AI tools and their direct application to critical cybersecurity tasks. The authors go beyond theoretical discussions by validating AI capabilities through industry sources and documentation, ensuring practical applicability. Their findings provide actionable insights for cybersecurity professionals, policymakers, and educators, emphasizing the urgent need to integrate AI-focused training into cybersecurity curricula.

This research is exceptionally deserving of the Best Scientific Cybersecurity Paper award due to its real-world impact, methodological rigor, and forward-looking perspective. By highlighting AI's potential to revolutionize cybersecurity workforce dynamics, it contributes significantly to both academic knowledge and industry practice. This paper serves as a foundation for future studies on human-AI teaming in cybersecurity and offers a compelling vision of an AI-empowered security workforce.