Special Issue

Federated Learning for Cybersecurity: Challenges and Future Directions

Message from the Guest Editors

This Special Issue seeks to foster the understanding of Federated Learning (FL)'s role in cybersecurity, advancing both theoretical foundations and practical implementations of FL for cybersecurity. We are pleased to invite you to contribute to this Special Issue, which aims to consolidate cutting-edge research and multidisciplinary perspectives on FL's applications, limitations, and opportunities in cybersecurity. In this Special Issue, original research articles and reviews are welcome. Research areas may include (but are not limited to) the following:

- Communication-efficient FL for Cybersecurity;
- Privacy-Preserving FL for Cybersecurity;
- Heterogeneity managementin FL for Cybersecurity;
- Adversarial Attacks and Defenses in FL for Cybersecurity;
- Scalability and Resource Optimization in FL for Cybersecurity;
- Blockchain-Enabled FL for Cybersecurity;
- FL for Anomaly Detection and Threat Intelligence;
- FL for Secure IoT and Edge Computing;
- Explainable and Interpretable FL for Cybersecurity;
- Benchmarking and evaluation metricsfor FL in cybersecurity applications.

Guest Editors

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Deadline for manuscript submissions

closed (20 October 2025)

Applied Sciences

About the Journal

Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal *Applied Sciences* has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

Editor-in-Chief

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