

PACMNET V4, N2, June 2026 Editorial

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The Proceedings of the ACM on Networking (PACMNET) series showcases top-tier research in emerging computer networks and their applications. We welcome submissions introducing new technologies, innovative experiments, creative applications of networking technologies, and fresh insights gained through analysis. Supported by the ACM Special Interest Group on Communications and Computer Networks (SIGCOMM), the journal is backed by a distinguished Editorial Board composed of leading researchers in the field.

This issue constitutes the second issue of the fourth volume of PACMNET and features articles submitted to the December 2025 deadline that were accepted without revision. A total of 135 submissions were received for this cycle and underwent a rigorous review process involving 95 Editors, coordinated by two Associate Editors. During the initial phase, each submission received a minimum of three reviews. Submissions that progressed to the second phase were evaluated through at least two additional reviews per article. Following a second round of reviews, the Editors convened online to determine which submissions should be accepted with minor revision subject to shepherding, which should be invited for a one-shot major revision, and which should be rejected. At the conclusion of this process, sixteen articles were accepted, with the authors asked to implement minor revisions under the guidance of a shepherd and included in this issue of PACMNET.

The papers in this issue span a broad yet cohesive set of themes in modern networking research. Several contributions focus on network performance and efficiency, including new approaches to rate control for large-scale AI model training, RDMA-assisted in-network scheduling, reinforcement learning-based resource prioritization for web performance, and novel transport mechanisms such as network-originated retransmissions. Advances in network infrastructure and architectures are also well represented, with work on demand-aware optical networking, line-rate approximations of priority queues, and frameworks for preventing unintended side effects in network reconfiguration. A strong emphasis is placed on security, privacy, and reliability, with contributions addressing traffic classification robustness through explainable AI, privacy-preserving core network design, and automated generation of adversarial network environments to stress protocol implementations. In parallel, the issue highlights progress in network measurement, observability, and data-driven modeling, including large-scale analyses of RPKI dynamics, topology-agnostic detection of latency

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anomalies, distributed tracing with eBPF, and systematic studies of real-world deployment bottlenecks in multipath transport systems. Finally, the issue includes works on emerging applications of machine learning in networking, such as semantic device identification framed as a language modeling problem and automated mitigation of shortcut learning in traffic classification, as well as empirical characterizations of modern content delivery platforms. Together, these contributions reflect the growing interplay between systems, data, and intelligence in shaping the next generation of networked systems.

As usual, we want to express our sincere gratitude to all those who contributed to this issue of PACMNET, especially the Authors for submitting their finest work and the Associate Editors for offering valuable feedback in their reviews and engaging in the discussions. Our thanks also go to the SIGCOMM Executive Committee Chair and the CoNEXT Steering Committee members for their continued support and guidance, providing essential suggestions and insights throughout the article selection process.