Proceedings of the VLDB Endowment

Volume 19, No. 9 – May 2026

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PVLDB – Proceedings of the VLDB Endowment

Volume 19, No. 9, May 2026.

All papers published in this issue will be presented at the 52nd International Conference on Very Large Data Bases, Boston, MA, USA, 2026.

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Volume 19, Number 9, May 2026

Pages i – xi and 1854 - 2535

ISSN 2150-8097

Available at: http://www.pvldb.org and https://dl.acm.org/journal/pvldb

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LETTER FROM THE EDITORS IN CHIEF

We are pleased to introduce Issue 9 of Volume 19 of the Proceedings of the VLDB Endowment.

This issue brings together 50 papers spanning a broad range of topics across modern data management, including Data Mining and Analytics (8), Machine Learning, AI, and Databases (6), Information Integration and Data Quality (7), Database Engines (7), Graph and Network Data (4), Novel Database Architectures (4), Data Privacy and Security (3), Database Performance and Manageability (2), Distributed Database Systems (2), Specialized and Domain-Specific Data Management (2), Text and Semi-Structured Data (2), Provenance and Workflows (1), User Interfaces (1), and Languages (1).

A prominent theme in this issue is the growing interaction between data management and AI. Several papers study the design, optimization, and evaluation of systems involving LLMs, compound AI serving, text-to-SQL, retrieval-augmented generation, knowledge graph evaluation, document understanding, and unstructured data analysis. Together, these papers reflect the community's increasing attention to how database techniques can support, evaluate, and improve AI-driven data applications.

This issue also features strong contributions on core database systems and architectures. The papers address query optimization, transaction processing, LSM-tree-based storage, learned compaction, vector search, hashing, concurrency control on disaggregated memory, GPU query processing, and high-performance I/O. These works continue PVLDB's tradition of advancing the foundations and performance of data-intensive systems while responding to emerging hardware and deployment environments.

The issue further includes a substantial set of contributions on information integration and data quality. These papers address data valuation for machine learning, the discovery of approximate data constraints, on-demand data fusion in dynamic data lakes, and human-centered exploration of table unionability. They also extend data quality and integration challenges to knowledge graphs and unstructured data, with work on LLM-assisted knowledge graph accuracy evaluation, multimodal knowledge graph completion, and systematic benchmarking of LLM-based unstructured data analysis. Together, these contributions highlight the growing breadth of methods for assessing, integrating, enriching, and extracting value from heterogeneous data.

Finally, the issue includes timely work on privacy, security, fairness, and trustworthy data management, including secure join processing, rollback detection for trusted distributed computing, auditing demographic bias in opaque rankings, and measuring database unfairness under differential privacy. These papers underscore the importance of building data systems that are not only efficient and scalable, but also secure, reliable, and socially responsible.

We thank the authors for submitting their work to PVLDB, the reviewers and meta-reviewers for their careful and constructive evaluations, and the broader PVLDB community for its continued commitment to rigorous and impactful research. We hope that readers will find this issue both technically rich and reflective of the evolving challenges and opportunities in modern data management.

Sincerely,

Yanlei Diao and Xiaokui Xiao
Editors-in-Chief of PVLDB Vol. 19
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