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TABLE OF CONTENTS

Front Matter

Copyright Notice	i
Table of Contents	ii
PVLDB Organization and Review Board – Vol. 15	iv

Research Papers

PACK: An Efficient Partition-based Distributed Agglomerative Hierarchical Clustering Algorithm for Deduplication	1132
<i>Yue Wang, Vivek Narasayya, Yeye He, Surajit Chaudhuri</i>	
A Near-Optimal Approach to Edge Connectivity-Based Hierarchical Graph Decomposition.....	1146
<i>Lijun Chang, Zhiyi Wang</i>	
Hu-Fu: Efficient and Secure Spatial Queries over Data Federation	1159
<i>Yongxin Tong, Xuchen Pan, Yuxiang Zeng, Yexuan Shi, Chunbo Xue, Zimu Zhou, Xiaofei Zhang, Lei Chen, Yi Xu, Ke Xu, Weifeng Lv</i>	
Sortledton: a Universal, Transactional Graph Data Structure	1173
<i>Per Fuchs, Jana Giceva, Domagoj Margan</i>	
NBTree: a Lock-free PM-friendly Persistent B+-Tree for eADR-enabled PM Systems.....	1187
<i>Bowen Zhang, Shengan Zheng, Zhenlin Qi, Linpeng Huang</i>	
TranAD: Deep Transformer Networks for Anomaly Detection in Multivariate Time Series Data.....	1201
<i>Shreshth Tuli, Giuliano Casale, Nicholas R Jennings</i>	
SpaceSaving± An Optimal Algorithm for Frequency Estimation and Frequent items in the Bounded Deletion Model	1215
<i>Fuheng Zhao, Divy Agrawal, Amr El Abbadi, Ahmed Metwally</i>	
ByteGNN: Efficient Graph Neural Network Training at Large Scale	1228
<i>Chenguang Zheng, Hongzhi Chen, Yuxuan Cheng, Zhezhen Song, Yifan Wu, Changji Li, James Cheng, Hao Yang, Shuai Zhang</i>	
Query Driven-Graph Neural Networks for Community Search: From Non-Attributed, Attributed, to Interactive Attributed.....	1243
<i>Yuli Jiang, Yu Rong, Hong Cheng, Xin Huang, Kangfei Zhao, Junzhou Huang</i>	
Hyper-Tune: Towards Efficient Hyper-parameter Tuning at Scale	1256
<i>Yang Li, Yu Shen, Huaijun Jiang, Wentao Zhang, Jixiang Li, Ji Liu, Ce Zhang, Bin Cui</i>	
Multivariate Correlations Discovery in Static and Streaming Data	1266
<i>Koen Minartz, Jens D'hondt, Odysseas Papapetrou</i>	
Moneyball: Proactive Auto-Scaling in Microsoft Azure SQL Database Serverless	1279
<i>Olga Poppe, Qun Guo, Willis Lang, Pankaj Arora, Morgan Oslake, Shize Xu, Ajay Kalhan</i>	
PGE: Robust Product Graph Embedding Learning for Error Detection	1288
<i>Kewei Cheng, Xian Li, Yifan Xu, Xin Dong, Yizhou Sun</i>	

CHEX: Multiversion Replay with Ordered Checkpoints 1297
Naga Nithin Manne, Shilvi Satpati, Tanu Malik, Amitabha Bagchi, Ashish Gehani, Amitabh Chaudhary

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LETTER FROM THE EDITORS IN CHIEF

We are pleased to present the sixth issue of PVLDB, Volume 15. This issue contains 14 papers in total including 11 regular research papers and 3 scalable data science (SDS) papers. A broad range of topics are covered in this issue including distributed database systems, machine learning & applied AI for data management, spatial data management, graph data management, database engines, provenance and workflows, data quality, data mining, and information retrieval.

For the first paper in this issue, Wang et al. propose an efficient distributed algorithm for agglomerative hierarchical clustering. Next, Chang et al. present a near-optimal approach for solving the edge connectivity-based hierarchical graph decomposition problem. Tong et al. study the problem of secure spatial queries over data federation and present efficient solutions to solve the problem. Fuchs et al. introduce Sortledton, a universal graph data structure that is optimized for the most relevant data access patterns used by graph computation kernels. Zhang et al. propose NBTtree, a lock-free persistent-memory-friendly B+-Tree for eADR-enabled persistent memory systems. Tuli et al. propose TranAD, a deep transformer network-based model for anomaly detection in multivariate time series data. Zhao et al. present the deterministic algorithms to solve the frequency estimation and frequent item problems in the bounded-deletion model. Zhao et al. propose a distributed graph neural network system ByteGNN to support efficient GNN training. Jiang et al. introduce graph neural network models for community search and attributed community search problems. Li et al. present Hyper-Tune, an efficient and robust distributed hyper-parameter tuning framework. Minartz et al. propose efficient algorithms for detecting multivariate correlations in static and streaming data. Poppe et al. study the problem of proactive auto-scaling in Microsoft Azure SQL Database Serverless. Cheng et al. propose PGE that leverages both text information and graph structure in product graphs to learn embeddings for error detection. Manne et al. present effective solutions for the multiversion replay problem.

All the papers in this issue will be presented at the 48th International Conference on Very Large Data Bases, 2022, in Sydney. We sincerely thank all the authors for submitting their work and all the reviewers for their outstanding service in reviewing the submissions. We hope that the reader will find this volume enjoyable.

Fatma Özcan, Juliana Freire and Xuemin Lin
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