Contents

Optimizing MongoDB Using Multi-streamed SSD .......................... 1
Trong-Dat Nguyen and Sang-Won Lee

Quadrant-Based MBR-Tree Indexing Technique for Range Query Over HBase ........................................ 14
Bumjoon Jo and Sungwon Jung

Migration from RDBMS to Column-Oriented NoSQL:
Lessons Learned and Open Problems .......................... 25
Ho-Jun Kim, Eun-Jeong Ko, Young-Ho Jeon, and Ki-Hoon Lee

Personalized Social Search Based on User Context Analysis ........... 34
SoYeop Yoo and OkRan Jeong

Dynamic Partitioning of Large Scale RDF Graph in Dynamic Environments ........................................ 43
Kyoungsoo Bok, Cheonjung Kim, Jaeyun Jeong, Jongtae Lim, and Jaesoo Yoo

Efficient Combined Algorithm for Multiplication and Squaring for Fast Exponentiation over Finite Fields $GF(2^m)$ .......................... 50
Kee-Won Kim, Hyun-Ho Lee, and Seung-Hoon Kim

Efficient Processing of Alternating Least Squares on a Single Machine ........................................ 58
Yong-Yeon Jo, Myung-Hwan Jang, and Sang-Wook Kim

Parallel Compression of Weighted Graphs .......................... 68
Elena En, Aftab Alam, Kifayat Ullah Khan, and Young-Koo Lee

An Efficient Subgraph Compression-Based Technique for Reducing the I/O Cost of Join-Based Graph Mining Algorithms .................. 78
Mostofa Kamal Rasel and Young-Koo Lee
Smoothing of Trajectory Data Recorded in Harsh Environments and Detection of Outlying Trajectories .................................................. 89
Iq Reviessay Pulshashi, Hyerim Bae, Hyunsuk Choi, and Seunghwan Mun

SSDMiner: A Scalable and Fast Disk-Based Frequent Pattern Miner . . . 99
Kang-Wook Chon and Min-Soo Kim

A Study on Adjustable Dissimilarity Measure for Efficient Piano Learning .......................................................... 111
So-Hyun Park, Sun-Young Ihm, and Young-Ho Park

A Mapping Model to Match Context Sensing Data to Related Sentences ......................................................... 119
Lucie Surridge and Young-ho Park

Understanding User’s Interests in NoSQL Databases in Stack Overflow ......................................................... 128
Minchul Lee, Sieun Jeon, and Min Song

MultiPath MultiGet: An Optimized Multiget Method Leveraging SSD Internal Parallelism ........................................ 138
Kyungtae Song, Jaehyung Kim, Doogie Lee, and Sanghyun Park

An Intuitive and Efficient Web Console for AsterixDB ........... 151
SoYeop Yoo, JeIn Song, and OkRan Jeong

Who Is Answering to Whom? Finding “Reply-To” Relations in Group Chats with Long Short-Term Memory Networks ........ 161
Gaoyang Guo, Chaokun Wang, Jun Chen, and Pengcheng Ge

Search & Update Optimization of a B+ Tree in a Hardware Aided Semantic Web Database System .......................... 172
Dennis Heinrich, Stefan Werner, Christopher Blochwitz, Thilo Pionteck, and Sven Groppe

Multiple Domain-Based Spatial Keyword Query Processing Method Using Collaboration of Multiple IR-Trees ........... 183
Junhong Ahn, Bumjoon Jo, and Sungwon Jung

Exploring a Supervised Learning Based Social Media Business Sentiment Index .................................................. 193
Hyeonseo Lee, Harim Seo, Nakyeong Lee, and Min Song

Data and Visual Analytics for Emerging Databases .................. 203
Carson K. Leung

A Method to Maintain Item Recommendation Equality Among Equivalent Items in Recommender Systems ........ 214
Yeo-jin Hong, Shineun Lee, and Young-ho Park
Time-Series Analysis for Price Prediction of Opportunistic Cloud Computing Resources ........................................... 221 Sarah Alkharif, Kyungyong Lee, and Hyeokman Kim

Block-Incremental Deep Learning Models for Timely Up-to-Date Learning Results ................................................. 230 GinKyeng Lee, SeoYoun Ryu, and Chulyun Kim

Harmonic Mean Based Soccer Team Formation Problem ............... 240 Jafar Afshar, Arousha Haghighian Roudsari, Charles CheolGi Lee, Chris Soo-Hyun Eom, Wookey Lee, and Nidhi Arora

Generating a New Dataset for Korean Scene Text Recognition with Augmentation Techniques ................................. 247 Mincheol Kim and Wonik Choi

Markov Regime-Switching Models for Stock Returns Along with Exchange Rates and Interest Rates in Korea ................. 253 Suyi Kim, So-Yeun Kim, and Kyungmee Choi

A New Method for Portfolio Construction Using a Deep Predictive Model .............................................................. 260 Sang Il Lee and Seong Joon Yoo

Personalized Information Visualization of Online Product Reviews ........................ 267 Jooyoung Kim and Dongsoo Kim

A Trail Detection Using Convolutional Neural Network ............... 275 Jeonghyeok Kim, Heezin Lee, and Sanggil Kang

Design of Home IoT System Based on Mobile Messaging Applications ................................................................. 280 Sumin Shin, Jungeun Park, and Chulyun Kim


EEUM: Explorable and Expandable User-Interactive Model for Browsing Bibliographic Information Networks .................. 299 Suan Lee, YoungSeok You, SungJin Park, and Jinho Kim

Proximity and Direction-Based Subgroup Familiarity-Analysis Model .... 309 Jung-In Choi and Hwan-Seung Yong
Music Recommendation with Temporal Dynamics in Multiple Types of User Feedback .......................... 319
Namyun Kim, Won-Young Chae, and Yoon-Joon Lee

Effectively and Efficiently Supporting Encrypted OLAP Queries over Big Data: Models, Issues, Challenges ......................... 329
Alfredo Cuzzocrea

Author Index .............................................................. 337
Proceedings of the 7th International Conference on Emerging Databases
Technologies, Applications, and Theory
Lee, W.; Choi, W.; Jung, S.; Song, M. (Eds.)
2018, X, 338 p. 157 illus., Hardcover
ISBN: 978-981-10-6519-4