

# Rize Jin

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## Academic Positions

- Sep 2017 ~ present      **Professor**, School of Computer Science & Software Engineering  
*Tianjin Polytechnic University, Tianjin, China*
- Sep 2015 ~ Aug 2017      **Assistant Professor**, Software Department  
*Ajou University, Suwon 16499, South Korea*
- Mar 2015 ~ Aug 2015      **Postdoctoral Researcher**, Computer Science  
*KAIST, Daejeon, South Korea*

## Education

- Mar 2011 ~ Feb 2015      **Doctor of Philosophy**, Computer Engineering  
*Ajou University, Suwon, South Korea*  
Thesis title: A High Performance and Secure Flash Storage System for Next Generation DBMSs
- Mar 2009 ~ Feb 2011      **Master of Science**, Computer Engineering  
*Ajou University, Suwon, South Korea*  
Thesis title: Index Node Compression and Query Processing Techniques based on COB<sup>+</sup>-tree
- Sep 2003 ~ Jun 2008      **Bachelor of Science**, Computer Science and Technology  
*Hunan University of Commerce, Changsha, Hunan, China*

## Research Interests

Database, Big Data, Location based Service, Natural Language Processing, Deep Learning.

## Awards

- **Thousand Talents Program for Distinguished Young Scholars**, Tianjin Government, 2017.
- **Outstanding Self-financed Students Abroad**, China Scholarship Council, 2014

- **Best Team Award**, Software Architecture and Software Engineering Program, Carnegie Mellon Uni./School of Computer Science, Aug. 2014
- **Best Paper Award**, Korea Computer Congress, Jun. 2013

## Activities & Membership

<b>Committee Chair</b>	<i>International Symposium for Advanced Computing and Information Technology (2017)</i>
<b>Peer reviewer</b>	<i>Pervasive and Mobile Computing (SCI Indexed)</i> <i>Applied Sciences — Open Access Journal (SCI Indexed)</i>
<b>Member</b>	<i>Association for Computational Linguistics (ACL)</i> <i>Korea Information Society (KIS)</i> <i>Asia Pacific Society for Computing and Information Technology (APSCIT)</i> <i>Korean Society Of Computer And Information (KSCI)</i> <i>Institute of Electronics, Information and Communication Engineers (IEICE)</i> <i>IBM Academic Initiative Program</i>

## Teaching

2017 Fall	<i>High-level Language Programming</i> at the School of International Education, Tianjin Polytechnic University
2017 Spring	<i>Database</i> at the Dept. of Software, Ajou University
2016 Fall	<i>Topics in Database</i> at the Graduate School, Ajou University <i>Computer Programming</i> at the Dept. of Software, Ajou University
2015 Fall	<i>Advanced Databases</i> at the Graduate School, Ajou University
2014 Fall	<i>Precalculus</i> at Center for International Education with Ajou Foundation Program

## Research

### Leading

Mar 2017 ~ Sep 2017	<i>Research on Improvement of User QoS (Quality of Service) for Flash Memory based Systems (in pending)</i> Beginner Researcher Program (Fundamental Research), National Research Foundation of Korea.
Apr 2016 ~ Sep 2016	<i>Building ConvNet-based Overweight/Obesity Information Extraction System</i> NamuTech Inc., South Korea
Sep 2015 ~ Aug 2016	<i>Research on Data Architecture for Flash Memory based Systems</i> Faculty Research Fund, Ajou University

### Participated in

- Mar 2015 ~ Aug 2015 ***An Automatic Gene Network Inference System based on Large-scale Text Mining for Complex Diseases***  
Mid-Career Researcher Program (National Research Lab), National Research Foundation of Korea
- Jul 2014 ~ Aug 2014 ***Integrated Customer Order and Robot Semi-Automated Warehouse System***  
Carnegie Mellon Uni./School of Computer Science
- May 2013 ~ Feb 2015 ***Research on the Optimal System SW for Flash Memory based Mobile Devices***  
General Researcher Program (Fundamental Research), National Research Foundation of Korea
- Mar 2013 ~ Feb 2015 ***Secure & Reliable Mobile Software Research***  
BK21 PLUS (Brain Korea 21 Program for Leading Universities & Students), National Research Foundation of Korea
- Sep 2010 ~ Mar 2011 ***Standardization on Vehicle IT Service***  
Electronics and Telecommunications Research Institute (ETRI)
- May 2010 ~ Apr 2013 ***Research on Software for Next Generation Flash Memory System***  
General Researcher Program (Fundamental Research), National Research Foundation of Korea
- Jun 2009 ~ Aug 2009 ***Performance Evaluation on Embedded Database***  
Inervit Inc.
- Mar 2009 ~ Feb 2012 ***Development on Mobile DBMS BMT tool***  
Brain Korea 21 Program, National Research Foundation of Korea

## Publications

### SCI Indexed Papers

- [J1] Joon-Young Paik, **Rize Jin**, Tae-Sun Chung, "Data recovery aware garbage collection mechanism in flash-based storage devices," *IEICE Electronics Express*, April, 2018.
- [J2] Joon-Young Paik, Eun-Sun Cho, **Rize Jin**, Tae-Sun Chung, "Selective-Delay Garbage Collection Mechanism for Read Operations in Multi-channel Flash-Based Storage Devices," *IEEE Transactions on Consumer Electronics* (ISSN: 0098-3063), February, 2018.
- [J3] Kamil Zeberga, **Rize Jin**, Hyung-Ju Cho, Tae-Sun Chung, "A Safe-Region Approach to a Moving k-RNN Queries in a Directed Road Network," *Journal of Circuits, Systems and Computers* (ISSN: 0218-1266), Vol. 26, Issue 5, May 2017
- [J4] Usman Anwar, Joon-Young Paik, **Rize Jin**, Tae-Sun Chung, "Log-Buffer Aware Cache Replacement Policy for Flash Storage Devices," *IEEE Transactions on Consumer Electronics* (ISSN: 0098-3063), 2017.2.1, 63(1): 77-84
- [J5] Muhammad Attique, Hyung-Ju Cho, **Rize Jin**, Tae-Sun Chung, "Efficient Processing of Continuous Reverse k Nearest Neighbor on Moving Objects in Road Networks," *ISPRS International Journal of Geo-Information* (ISSN 2220-9964), 5(12), 2016.

- [J6] Muhammad Attique, Hyung-Ju Cho, **Rize Jin**, Tae-Sun Chung, “Top-*k* Spatial Preference Queries in a Directed Road Network,” *ISPRS International Journal of Geo-Information* (ISSN 2220-9964), 5(10), 2016.
- [J7] Hyung-Ju Cho, **Rize Jin**, “Efficient processing of moving *k*-range nearest neighbor queries in directed and dynamic spatial networks,” *Mobile Information Systems* (ISSN: 1574-017X), Volume 2016 (2016), Article ID 2406142, 2016.
- [J8] Hyung-Ju Cho, Se Jin Kwon, **Rize Jin**, Tae-Sun Chung, “A privacy-aware monitoring algorithm for moving *k*-nearest neighbor queries in road networks,” *Distributed and Parallel Databases* (ISSN: 0926-8782), Vol.33 (3), pp. 319-352, September 2015. (CCFC)
- [J9] Sololia Gudeta Ayele, **Rize Jin**, Se Jin Kwon, Muhammad Attique, Tae-Sun Chung, “Efficient FTL-aware data categorization and identification scheme for flash memory,” *Journal of Circuits, Systems and Computers* (ISSN: 0218-1266), Vol. 24 (8), September 2015.
- [J10] **Rize Jin**, Hyung-Ju Cho, Tae-Sun Chung, “LS-LRU: A lazy-split LRU buffer replacement policy for flash-based B+–tree index,” *Journal of Information Science and Engineering* (ISSN: 1016-2364), Vol.31 (3), pp.1113-1132, May 2015.
- [J11] Hyung-Ju Cho, **Rize Jin**, Tae-Sun Chung, “A collaborative approach to moving *k*-nearest neighbor queries in directed and dynamic road networks,” *Pervasive and Mobile Computing* (ISSN: 1574-1192), Vol. 17, Part A, pp. 139-156, February 2015. (CCFC)
- [J12] **Rize Jin**, Hyung-Ju Cho, Tae-Sun Chung, “An encryption approach to secure modification and deletion for flash-based storage systems,” *IEEE Transactions on Consumer Electronics*, (ISSN: 0098-3063), Vol. 60 (4), pp. 662-667, November 2014.
- [J13] **Rize Jin**, Hyung-Ju Cho, Tae-Sun Chung, “Three-state log-aware buffer management scheme for flash-based consumer electronics,” *IEEE Transactions on Consumer Electronics* (ISSN: 0098-3063), Vol. 59 (4), pp. 795-802, November 2013.
- [J14] **Rize Jin**, Hyung-Ju Cho, Sang-Won Lee, Tae-Sun Chung, “Lazy-split B+–tree: a novel B+–tree index scheme for flash-based database systems,” *Design Automation for Embedded Systems* (ISSN: 0929-5585), Vol. 17 (1), pp. 167-191, March 2013.

## SCOPUS Indexed Papers

- [J15] Xiaohan Ma, **Rize Jin\***, Joon-Young Paik, Tae-Sun Chung, “Large Scale Text Classification with Efficient Word Embedding”, Lecture Notes in Electrical Engineering, Volume, June. 2017.
- [J16] Mijin Choi, **Rize Jin**, Tae-Sun Chung, “Document Classification using Word2Vec and Chi-square on Apache Spark,” Lecture Notes in Electrical Engineering, Volume 421, Nov. 2016.
- [J17] Jaekwang Van, **Rize Jin**, Sungsoo Kim, Tea-Sun Chung, “An Auxiliary Log Area for In-Page Logging Scheme,” *Advanced Science Letters*, Vol. 21 (3), pp. 396-399. March 2015

## Selected International Conference Papers

- [C1] Maria Wolters, Sarah MacPherson, Jinseon You, **Rize Jin**, Seung-Cheol Baek, and Jong C. Park: “A New Measure of Clustering and Switching Based on Bigrams,” in *Proceedings of 56th Annual Meeting of the Psychonomic Society*. November 19-22, 2015, Chicago, Illinois, USA
- [C2] **Rize Jin**, Jinseon You, Jin-Woo Chung, Hee-Jin Lee, Maria Wolters, Jong C. Park, “CoMAGD: Annotation of Gene-Depression Relations,” in *Proceedings of ACL BioNLP 2015 Workshop*, July 26-31, 2015, Beijing, China.
- [C3] **Rize Jin**, Hyung-Ju Cho, Tae-Sun Chung, “A group round robin based b-tree index storage scheme for flash memory devices,” in *Proceedings of the 8th International Conference on Ubiquitous Information Management and Communication (ACM IMCOM)*, January 9-11, 2014, Siem Reap, Cambodia.
- [C4] **Rize Jin**, Hyung-Ju Cho, Tae-Sun Chung, “A group based in-block logging for flash based systems,” in *Proceedings of the 2013 International Conference on IT Convergence and Security*, December 16-18, 2013. Macau, China.
- [C5] Hyuk-In Kwon, **Rize Jin**, Tae-Sun Chung, “AB-FTL: An alternative block Flash Translation Layer using locality-aware technique,” in *Proceedings of the 2011 IEEE International Conference on Networked Embedded Systems for Enterprise Applications*, December 8-9, 2011, Perth, Australia.
- [C6] **Rize Jin**, Se Jin Kwon, Tae-Sun Chung, “FlashB-tree: a novel B-tree index scheme for solid state drives,” in *Proceedings of the 8th ACM Research on Applied Computing Symposium (ACM RACS '11)*, November 2-5, 2011. Miami, FL, USA.
- [C7] **Rize Jin**, Tae-Sun Chung, “Node compression techniques based on cache-sensitive B+-tree,” in *Proceedings of the 9th IEEE/ACIS International Conference on Computer and Information Science*, August 18-20, 2010. Yamagata, Japan.
- [C8] **Rize Jin**, Tae-Sun Chung, “Dynamic regulation of index implementation for flash memory storages,” in *Proceedings of the 2010 International Conference on Computer and Automation Engineering*, February 26-28, 2010. Singapore.

## Korean Conference

- [C9] **Rize Jin**, Jinseon You, Jong C. Park, “Biomedical Event Extraction and Management in Big-scale Biomedical Literature,” in *Proceedings of the 42nd KIISE Winter Conference*, December 17-19, 2015, Phoenix Park, Korea
- [C10] Jinseon You, **Rize Jin**, Hee-Jin Lee, Jong C. Park, “Identification of Depression-Gene Associations from Biomedical Literature,” in *Proceedings of the 2015 Korea Computer Congress*, June 2015, Jeju, Korea.
- [C11] Hyunju Yi, **Rize Jin**, Tae-Sun Chung, "Column-oriented Join processing for multi-channel NAND flash memory," in *Proceedings of the 2013 Korea Computer Congress*, VOL 40 NO. 2(A) June 26-28, 2013, Ieosu, Korea.
- [C12] Sunhyoung Kwon, **Rize Jin**, Tae-Sun Chung, "GRR: A group round robin based B-tree index storage scheme for flash memory devices," in *Proceedings of the 2013 Korea Computer Congress*, VOL 40 NO. 2(A), pp. 371-373, June 26 - 28, 2013, Ieosu, Korea.

- [C13] Seung-kwon Choe, **Rize Jin**, Tae-Sun Chung, "GC-Centric FTL for improving performance of Flash Memory," in *Proceedings of the 2012 Korea Computer Congress*, VOL 39 NO. 2(A), pp 84-86, Nov. 2012, Daejeon, Korea.

## Patents

### USA

- [P1] Memory Controller and Data Management Method Thereof, *United States*, Patent No.: US9304905 B2, Publication date: 2016.04.05
- [P2] Apparatus and Method for Managing Buffer Having Three States on the Basis of Flash Memory, *United States*, Application No.: 14/902,748, Application date: 2016.01.04
- [P3] Secure Monitoring Technique for Moving k-Nearest Queries in Road Network, *United States*, Application No.: US20160203226 A1, Application date: 2015.10.13

### South Korea

- [P1] Buffer management apparatus and method having three states based on flash memory, *South Korea*, Patent No.: 10-1481633, Date: 2015.01.06
- [P2] A Secure Monitoring Technique for Moving k Nearest Neighbor (MkNN) Queries in Road Networks, *South Korea*, Patent No.: 10-1479498, Date: 2014.12.30
- [P3] A Method for Computing Safe Exit Points of Moving K Nearest Neighbor Queries in Road Networks, *South Korea*, Patent No.: 10-1423031, Date: 2014.06.15
- [P4] Memory Controller and Data Management Method, *South Korea*, Patent No.: 10-1257691, Date: 2013.04.18

### PCT

- [P5] Apparatus and Method for Managing Buffer Having Three States on the Basis of Flash Memory, *WO (World Intellectual Property Organization)*, Publication No.: PCT/KR2014/002481 A1, Publication date: 2015.01.08
- [P6] Safe Monitoring Technique for Moving k Nearest Neighbor Queries in Road Networks, *WO (World Intellectual Property Organization)*, Publication No.: PCT/KR2014/126390 A1, Publication date: 2014.08.21
- [P7] Memory Controller and Data Management Method Thereof, *WO (World Intellectual Property Organization)*, Publication No.: PCT/KR2012/024952 A1, Publication date: 2013.02.21