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**Education**

PhD, National University of Singapore, Singapore, 2017
Bachelor of Computing, National University of Singapore, Singapore, 2013
Bachelor of Science, National University of Singapore, Singapore, 2013

Academic Appointments

Associate Professor of Computer Science, School of Computing and Information Systems, SMU, Jan 2025 - Present
Assistant Professor of Computer Science, School of Computing and Information Systems, SMU, Apr 2021 - Dec 2024
Assistant Professor of Information Systems, School of Computing and Information Systems, SMU, Jan 2018 - Mar 2021

RESEARCH

PublicationsJournal Articles [Refereed]

A survey on concurrent processing of graph analytical queries: Systems and algorithms, by LI, Yuchen; SUN, Shixuan; XIAO, Hanhua; YE, Chang; LU, Shengliang; HE, Bingsheng. (2024). *IEEE Transactions on Knowledge and Data Engineering*, 36 (11), 5508-5528. <https://doi.org/10.1109/TKDE.2024.3393936> (Published)

gSWORD: GPU-accelerated sampling for subgraph counting, by YE, Chang; LI, Yuchen; SUN, Shixuan; GUO, Wentian. (2024). *Proceedings of the ACM on Management of Data*, 2 (12), 15-26. <https://doi.org/10.1145/3639288> (Published)

From a timeline contact graph to close contact tracing and infection diffusion intervention, by ZHANG, Yipeng; BAO, Zhifeng; LI, Yuchen; ZHENG, Baihua; WANG, Xiaoli. (2024). *IEEE Transactions on Knowledge and Data Engineering*, 36 (12), 1-12. <https://doi.org/10.1109/TKDE.2024.3423476> (Advance Online)

Large-scale graph label propagation on GPUs, by YE, Chang; LI, Yuchen; HE, Bingsheng; LI, Zhao; SUN, Jianling. (2023). *IEEE Transactions on Knowledge and Data Engineering*, 36 (10), 1-14. <https://doi.org/10.1109/TKDE.2023.3336329> (Advance Online)

On the substructure countability of graph neural networks, by XIA, Wenwen; LI, Yuchen; LI, Shenghong.

(2023). *IEEE Transactions on Knowledge and Data Engineering*, 35(11), 11681-11692. <https://doi.org/10.1109/TKDE.2022.3223471> (Published)

Graph neural point process for temporal interaction prediction, by XIA, Wenwen; LI, Yuchen; LI, Shengdong. (2023). *IEEE Transactions on Knowledge and Data Engineering*, 35(5), 4867-4879. <https://doi.org/10.1109/TKDE.2022.3149927> (Published)

On the Robustness of Diffusion in a Network Under Node Attacks, by LOGINS, Alvis; LI, Yuchen; KARRAS, Panagiotis. (2022). *IEEE Transactions on Knowledge and Data Engineering*, 34(12), 5884-5895. <https://doi.org/10.1109/TKDE.2021.3071081> (Published)

Exploiting Reuse for GPU Subgraph Enumeration, by GUO, Wentiao; LI, Yuchen; TAN, Kian-Lee. (2022). *IEEE Transactions on Knowledge and Data Engineering*, 34(9), 4231-4244. <https://doi.org/10.1109/TKDE.2020.3035564> (Published)

A survey of typical attributed graph queries, by WANG, Yanhao; LI, Yuchen; FAN, Ju; YE, Chang; CHAI, Mingke. (2021). *World Wide Web*, 24(1), 1-50. <https://doi.org/10.1007/s11280-020-00849-0> (Published)

Towards an Optimal Outdoor Advertising Placement: When a Budget Constraint Meets Moving Trajectories, by ZHANG, Ping; BAO, Zhifeng; LI, Yuchen; LI, Guoliang; ZHANG, Yipeng; PENG, Zhiyong. (2020). *ACM Transactions on Knowledge Discovery from Data*, 14(5), 51:1-32. <https://doi.org/10.1145/3350488> (Published)

ITAA: An intelligent trajectory-driven outdoor advertising deployment assistant, by ZHANG, Yipeng; BAO, Zhifeng; MO, Songsong; LI, Yuchen; ZHOU, Yanghao. (2018). *Proceedings of the VLDB Endowment*, 12(12), 1790-1793. <http://doi.org/10.14778/3352063.3352067> (Published)

Influence Maximization on Social Graphs: A Survey, by LI, Yuchen; FAN, Ju; WANG, Yanhao; TAN, Kian-Lee. (2018). *IEEE Transactions on Knowledge and Data Engineering*, 30(10), 1852-1872. <https://doi.org/10.1109/TKDE.2018.2807843> (Published)

Location-aware Influence Maximization over Dynamic Social Streams, by WANG, Yanhao; LI, Yuchen; FAN, Ju; TAN, Kianlee. (2018). *ACM Transactions on Information Systems*, 36(4), 1-35. <https://doi.org/10.1145/3230871> (Published)

Efficient Representative Subset Selection over Sliding Windows, by WANG, Yanhao; LI, Yuchen; TAN, Kian-Lee. (2019). *IEEE Transactions on Knowledge and Data Engineering*, 31(7), 1-14. <https://doi.org/10.1109/TKDE.2018.2854182> (Published)

Augmented keyword search on spatial entity databases, by ZHANG, Dongxiang; LI, Yuchen; CAO, Xin; SHAO, Jie; SHEN, Heng Tao. (2018). *VLDB Journal*, 27(2), 1-20. <https://doi.org/10.1007/s00778-018-0497-6> (Published)

Discovering Newsworthy Themes from Sequenced Data: A Step Towards Computational Journalism, by FAN, Qi; LI, Yuchen; ZHANG, Dongxiang; TAN, Kian-Lee Tan. (2017). *IEEE Transactions on Knowledge and Data Engineering*, 29(7), 1398-1411. <https://doi.org/10.1109/TKDE.2017.2685587> (Published)

Processing Long Queries Against Short Text: Top-*k* Advertisement Matching in News Stream Applications, by ZHANG, Dongxiang; LI, Yuchen; FAN, Ju; GAO, Lianli; SHEN, Fumin; SHEN, Heng Tao. (2017). *ACM Transactions on Information Systems*, 35(3), 1-27. <https://doi.org/10.1145/3052772> (Published)

Conference Proceedings

Graph Perturbation Analysis for Subgraph Counting, by XIAO, Hanhua; LI, Yuchen; MOURATIDIS, Kyriakos. *Proceedings of the ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)*, Jeju, Korea: (Accepted)

HPS: Hard preference sampling for human preference alignment, by ZOU, Xiandong; LIN, Wanyu; LI, Yuchen; ZHOU, Pan. (2025.0). *Proceedings of the 42nd International Conference on Machine Learning, ICML 2025, Vancouver, Canada, July 13-19*, (pp. 1-24) Vancouver, Canada: <https://openreview.net/forum?id=hLvWwRZkok> (Published)

Dupin: A parallel framework for densest subgraph discovery in fraud detection on massive graphs, by JIANG, Jiabin; YAO, Siyuan; LI, Yuchen; WANG, Qiange; HE, Bingsheng; CHEN, Min. (2025.0). *Proceedings of the ACM on Management of Data, Volume 3, Issue 3, Berlin, Germany, June 22-27*, (pp. 1-26) New York:

ACM. <https://doi.org/10.1145/3725287> (Published)

Community detection in heterogeneous information networks without materialization, by JIANG, Jiabin; YAO, Siyuan; CHEN, Yuhang; HE, Bingsheng; NIU, Yudong; LI, Yuchen; SUN, Shixuan; LIU, Yongchao. (2025.0). *Proceedings of the ACM on Management of Data, Volume 3, Issue 3, Berlin, Germany, June 22-27*, (pp. 1-27) New York: ACM. <https://doi.org/10.1145/3725276> (Published)

An efficient memoization engine for concurrent graph query processing, by GAO, Sen; LU, Shengliang; SUN, Shixuan; LI, Yuchen; HE, Bingsheng. (2025.0). *Proceedings of the 2025 IEEE 41st International Conference on Data Engineering (ICDE), Hong Kong, May 19-23*, (pp. 1015-1028) Los Alamitos, CA: IEEE Computer Society. <https://doi.org/10.1109/ICDE65448.2025.00081> (Published)

A sketch propagation framework for hub queries on unmaterialized relational graphs, by NIU, Yudong; LI, Yuchen; KARRAS, Panagiotis; WANG, Yanhao. (2025.0). *Proceedings of the 2025 IEEE 41st International Conference on Data Engineering (ICDE), Hong Kong, May 19-23*, Piscataway, NJ: IEEE. <https://doi.org/10.1109/ICDE65448.2025.00225> (Advance Online)

eBaaS: AIoT-enabled eBike battery-swap as a service for last-mile delivery, by DING, Donghui; LI, Zhao; ZHANG, Jiarun; LIU, Xuanwu; ZHANG, Ji; LI, Yuchen; CAI, Peng; LIU, JianXun; LONG, Guodong. (2025.0). *WWW '25: Proceedings of the ACM on Web Conference 2025, Sydney, Australia, April 28 - May 2*, (pp. 5045-5053) New York: ACM. <https://doi.org/10.1145/3696410.3714503> (Published)

SANS: Efficient densest subgraph discovery over relational graphs without materialization, by NIU, Yudong; LI, Yuchen; JIANG, Jiabin; LAKSHMANAN, Laks V. S.. (2025.0). *WWW '25: The ACM Web Conference 2025, Sydney, Australia, April 28 - May 2*, (pp. 4250-4263) New York: ACM. <https://doi.org/10.1145/3696410.3714603> (Published)

PETravel: Personalized e-bike travel recommendation system with unlimited endurance, by SHI, Yuduo; LI, Zhao; PAN, Xuming; CHEN, Yaoling; ZHOU, Bo; XU, Haitao; MA, Wenrui; LI, Yuchen; HU, Shichang. (2025.0). *WWW '25: Companion Proceedings of the ACM on Web Conference 2025, Sydney, Australia, April 28 - May 2*, (pp. 2907-2910) New York: ACM. <https://doi.org/10.1145/3701716.3715191> (Published)

Reachability-aware fair influence maximization, by MA, Wenyue; EGGER, Maximilian K.; PAVLOGIANNIS, Andreas; LI, Yuchen; KARRAS, Panagiotis. (2024.0). *Web and Big Data: 8th International Joint Conference, APWeb-WAIM 2024: Jinhua, China, August 30 - September 1: Proceedings*, (pp. 342-359) Cham: Springer. https://doi.org/10.1007/978-981-97-7238-4_22 (Published)

How to avoid jumping to conclusions: Measuring the robustness of outstanding facts in knowledge graphs, by XIAO, Hanhua; LI, Yuchen; WANG, Yanhao; KARRAS, Panagiotis; MOURATIDIS, Kyriakos; AVLONA, Natalia Rozalia. (2024.0). *Proceedings of the 30th ACM SIGKDD Conference on Knowledge Discovery and Data Mining, KDD 2024, Barcelona, Spain, August 25-29, 2024*, (pp. 3539-3550) New York: ACM. <https://doi.org/10.1145/3637528.3671763> (Published)

uBlade: efficient batch processing for uncertainty graph queries, by YAO, Siyuan; LI, Yuchen; SUN, Shixuan; JIANG, Jiabin; HE, Bingsheng. (2024.0). *Proceedings of the ACM SIGMOD/PODS Conference, Management of Data 2024 : Santiago, Chile, June 9-14*, (pp. 1-24) Santiago, Chile: Association for Computing Machinery. <https://doi.org/10.1145/3654982> (Published)

Enabling roll-up and drill-down operations in news exploration with knowledge graphs for due diligence and risk management, by WANG, Sha; LI, Yuchen; XIAO, Hanhua; BAO, Zhifeng; DENG, Lambert; DONG, Yanfei. (2024.0). *Proceedings of the 40th IEEE International Conference on Data Engineering (ICDE 2024) : Utrecht, Netherlands, May 13-17*, (pp. 1-7) Utrecht, Netherlands: IEEE. <https://doi.org/10.1109/ICDE60146.2024.00400> (Published)

Discovering personalized characteristic communities in attributed graphs, by NIU, Yudong; LI, Yuchen; KARRAS, Panagiotis; WANG, Yanhao; LI, Zhao. (2024.0). *2024 IEEE 40th International Conference on Data Engineering (ICDE): Utrecht, May 13-16: Proceedings*, (pp. 2834-2847) Los Alamitos, CA: IEEE Computer Society. <https://doi.org/10.1109/ICDE60146.2024.00221> (Published)

Balancing utility and fairness in submodular maximization, by WANG, Yanhao; LI, Yuchen; BONCHI, Francesco; WANG, Ying. (2023.0). *Proceedings of the 27th International Conference on Extending Database Technology (EDBT), Paestum, Italy, March 25-28*, (pp. 1-14) Paestum, Italy: Open Proceedings. <https://doi.org/10.48786/edbt.2024.01> (Published)

Exploiting reuse for GPU subgraph enumeration (extended abstract), by GUO, Wentiao; LI, Yuchen; TAN,

Kian-Lee. (2023.0). *Proceedings of the 2023 IEEE 39th International Conference on Data Engineering (ICDE), Anaheim, California, April 3-7, Anaheim, CA, USA: IEEE.* <https://doi.org/10.1109/ICDE55515.2023.00309> (Published)

Efficient navigation for constrained shortest path with adaptive expansion control, by XIA, Wenwen; LI, Yuchen; GUO, Wentian; LI, Shenghong. (2022.0). *2022 IEEE International Conference on Data Mining (ICDM): Orlando, November 22 - December 1: Proceedings*, (pp. 588-597) Washington, DC: IEEE Computer Society. <https://doi.org/10.1109/ICDM54844.2022.00069> (Published)

Local clustering over labeled graphs: An index-free approach, by YUDONG, Niu, Yuchen Li, Ju Fan, Zhifeng Bao. (2022.0). *Proceedings of the 38th International Conference on Data Engineering, Kuala Lumpur, Malaysia, 2022 May 9-12, Kuala Lumpur, Malaysia: IEEE.* <http://doi.org/10.1109/ICDE53745.2022.00255> (Published)

From community search to community understanding: A multimodal community query engine, by LI, Zhao; ZOU, Pengcheng; CHEN, Xia; HU, Shichang; ZHANG, Peng; ZHOU, Yumou; HE, Bingsheng; LI, Yuchen; TANG, Xing. (2021.0). *Proceedings of the 30th ACM International Conference on Information & Knowledge Management, Virtual Conference, 2021 November 1-5*, (pp. 1-5) Virtual Conference: ACM. (Published)

ThunderRW: An in-memory graph random walk engine, by SUN, Shixuan; CHEN, Yuhang; LU, Shengliang; HE, Bingsheng; LI, Yuchen. (2021.0). *Proceedings of the 47th International Conference on Very Large Data Bases, Copenhagen, Denmark, 2021 August 16-20*, (pp. 1-17) Copenhagen, Denmark: (Published)

Context-aware outstanding fact mining from knowledge graphs, by YANG, Yueji; LI, Yuchen; KARRAS, Panagiotis; TUNG, Anthony. (2021.0). *Proceedings of the 27th ACM SIGKDD Conference on Knowledge Discovery & Data Mining, Virtual Conference, 2021 August 14-18*, (pp. 2006-2016) Singapore: ACM. (Published)

Forecasting interaction order on temporal graphs, by XIA, Wenwen; LI, Yuchen; TIAN, Jianwei; LI, Shenghong. (2021.0). *Proceedings of the 27th ACM SIGKDD Conference on Knowledge Discovery & Data Mining, Virtual Conference, 2021 August 14-18*, (pp. 1884-1893) Virtual Conference: ACM. (Published)

GPU-accelerated graph label propagation for real-time fraud detection, by YE, Chang; LI, Yuchen; HE, Bingsheng; LI, Zhao; SUN, Jianling. (2021.0). *Proceedings of the 2021 International Conference on Management of Data (SIGMOD '21), 2021 June 18-27*, (pp. 2348-2356) Virtual Conference: ACM. (Published)

Cache-efficient fork-processing patterns on large graphs, by LU, Shengliang; SUN, Shixuan; PAUL, Johns; LI, Yuchen; HE, Bingsheng. (2021.0). *Proceedings of the 2021 International Conference on Management of Data, Virtual Conference, June 20-25*, (pp. 1208-1221) Virtual Conference: ACM. (Published)

Self-adaptive graph traversal on GPUs, by SHA, Mo; LI, Yuchen; TAN, Kian-Lee. (2021.0). *Proceedings of the 2021 International Conference on Management of Data, Virtual Conference, 2021 June 20-25*, (pp. 1558-1570) USA: ACM. (Published)

Minimum coresets for maxima representation of multidimensional data, by WANG, Yanhao; MATHIOUDAKIS, Michael; LI, Yuchen; TAN, Kian-Lee. (2021.0). *Proceedings of the 40th ACM SIGMOD-SIGACT-SIGAI Symposium on Principles of Database Systems (PODS 2021), Virtual Conference, 2021 June 21-23*, (pp. 138-152) USA: ACM. (Published)

Minimizing the regret of an influence provider, by ZHANG, Yipeng; LI, Yuchen; BAO, Zhifeng; ZHENG, Baihua, JAGADISH, H. V.. (2021.0). *The proceedings of International Conference on Management of Data, Oct 20-25*, (pp. 2115-2127) New York : ACM. <https://doi.org/10.1145/3448016.3457257> (Published)

A fully dynamic algorithm for k-regret minimizing sets, by WANG, Yanhao; LI, Yuchen; CHI-WING WONG, Raymond; TAN, Kian-Lee. (2021.0). *Proceedings of 2021 IEEE 37th International Conference on Data Engineering, Chania, Greece, April 19-22*, (pp. 1631-1642) USA: IEEE. (Published)

DyCuckoo: Dynamic hash tables on GPUs, by LI, Yuchen; ZHU, Qiwei; LYU, Zheng; HUANG, Zhongdong; SUN, Jianling. (2021.0). *Proceedings of 2021 IEEE 37th International Conference on Data Engineering (ICDE 2021), Chania, Greece, April 19-22*, (pp. 744-755) USA: IEEE. (Published)

NewsLink: Empowering intuitive news search with knowledge graphs, by YANG, Yueji; LI, Yuchen; TUNG, Anthony. (2021.0). *Proceedings of 2021 IEEE 37th International Conference on Data Engineering, Chania, Greece, April 19-22*, (pp. 876-887) USA: IEEE. (Published)

Towards efficient motif-based graph partitioning: An adaptive sampling approach, by HUANG, Shixun; LI, Yuchen; BAO, Zhifeng; LI, Zhao. (2021.0). *Proceedings of 2021 IEEE 37th International Conference on Data Engineering (ICDE 2021), Chania, Greece, April 19-22*, (pp. 528-539) Virtual Conference: IEEE. (Published)

DBL: Efficient reachability queries on dynamic graphs, by LYU, Qiuyi; LI, Yuchen; HE, Bingsheng; GONG, Bin. (2021.0). *Database Systems for Advanced Applications: 26th International Conference (DASFAA 2021), Virtual Conference, April 11-14: Proceedings*, (pp. 761-777) Cham: Springer. https://doi.org/10.1007/978-3-030-73197-7_52 (Published)

DeepIS: Susceptibility estimation on social networks, by XIA, Wenwen; LI, Yuchen; WU, Jun; LI, Shenghong. (2021.0). *Proceedings of the 14th ACM International Conference on Web Search and Data Mining, Virtual Conference*, (pp. 761-769) Virtual Conference: ACM. (Published)

Efficient sampling algorithms for approximate temporal motif counting, by WANG, Jingjing; WANG, Yanhao; JIANG, Wenjun; LI, Yuchen; TAN, Kian-Lee. (2020.0). *CIKM '20: Proceedings of the 29th ACM International Conference on Information and Knowledge Management, Virtual, October 19-23*, (pp. 1505-1514) New York: ACM. <https://doi.org/10.1145/3340531.3411862> (Published)

Accelerating Exact Constrained Shortest Paths on GPUs, by LU, Shengliang; HE, Bingsheng; LI, Yuchen; FU, Hao. (2020.0). *Proceedings of the VLDB Endowment: 46th VLDB 2020, Tokyo, Japan, August 31 - September 4*, (pp. 547-559) Stanford, CA: VLDB Endowment. <https://doi.org/10.14778/3436905.3436914> (Published)

BiANE: Bipartite Attributed Network Embedding, by HUANG, Wentao; LI, Yuchen; FANG, Yuan; FAN, Ju; YANG, Hongxia. (2020.0). *Proceedings of the 43rd International ACM SIGIR Conference on Research and Development in Information Retrieval, Virtual event, China, 2020 July 25-30*, (pp. 149-158) Virtual Event, China: ACM. <https://doi.org/10.1145/3397271.3401068> (Published)

GPU-accelerated subgraph enumeration on partitioned graphs, by GUO, Wentian; LI, Yuchen; MO, Sha; HE, Bingsheng; XIAO, Xiaokui; TAN, Kian-Lee. (2020.0). *SIGMOD '20: Proceedings of the ACM SIGMOD International Conference on Management of Data, Portland, June 14-19*, (pp. 1067-1082) New York: ACM. <https://doi.org/10.1145/3318464.3389699> (Published)

On the robustness of cascade diffusion under node attacks, by LOGINS, Alvis; LI, Yuchen; KARRAS, Panagiotis. (2020.0). *WWW '20: Proceedings of the 29th Web Conference, Virtual, Taipei, April 20-24*, (pp. 2711-2717) New York: ACM. <https://doi.org/10.1145/3366423.3380028> (Published)

Social influence does matter: User action prediction for in-feed advertising., by WANG, Hongyang; MENG, Qingfei; FAN, Ju; LI, Yuchen; CUI, Laizhong; ZHAO, Xiaoman; PENG, Chong; CHEN, Gong Chen; DU, Xiaoyong. (2020.0). *Thirty-Fourth AAAI Conference on Artificial Intelligence*, New York: (Published)

SHOAL: Large-scale Hierarchical Taxonomy via Graph-based Query Coalition in E-commerce, by LI, Zhao; CHEN, Xia; PAN, Xuming; ZOU, Pengcheng; LI, Yuchen; YU, Guoxian. (2019.0). *Proceedings of the 45th International Conference on Very Large Data Bases, Los Angeles, California, 2019 August 26-30*, (pp. 1858-1861) Los Angeles: <https://doi.org/10.14778/3352063.3352084> (Published)

ITAA: An intelligent trajectory-driven outdoor advertising deployment assistant, by ZHANG, Yipeng; BAO, Zhifeng; MO, Songsong; LI, Yuchen; ZHOU, Yanghao. (2019.0). *Proceedings of the 45th International Conference on Very Large Data Bases, Los Angeles, California, 2019 August 26-30*, (pp. 12-1790) Los Angeles: <http://www.vldb.org/pvldb/vol12/p1790-zhang.pdf> (Published)

Optimizing impression counts for outdoor advertising, by ZHANG, Yipeng; LI, Yuchen; BAO, Zhifeng; MO, Songsong; ZHANG, Ping. (2019.0). *Proceedings of the 25th ACM SIGKDD International Conference on Knowledge Discovery & Data Mining, Anchorage, Alaska, 2019 August 4-8*, (pp. 1205-1215) Anchorage, Alaska: <https://doi.org/10.1145/3292500.3330829> (Published)

Coresets for minimum enclosing balls over sliding windows, by WANG, Yanhao; LI, Yuchen; TAN, Kian-Lee. (2019.0). *Proceedings of the 25th ACM SIGKDD International Conference on Knowledge Discovery & Data Mining, Anchorage, Alaska, 2019 August 4-8*, (pp. 314-323) Anchorage, Alaska: <https://doi.org/10.1145/3292500.3330826> (Published)

GPU-based graph traversal on compressed graphs, by SHA, Mo; LI, Yuchen; TAN, Kian-Lee. (2019.0). *Proceedings of the 2019 International Conference on Management of Data, Amsterdam, Netherlands, 2019 June 30-July 5*, (pp. 775-792) Amsterdam: <https://doi.org/10.1145/3299869.3319871> (Published)

Maximizing multifaceted network influence, by LI, Yuchen; FAN, Ju; OVCHINNIKOV, George V.; KARRAS, Panagiotis. (2019.0). *2019 35th IEEE International Conference on Data Engineering: Macau, China, April 8-11: Proceedings*, (pp. 446-457) Piscataway, NJ: IEEE. <https://doi.org/10.1109/ICDE.2019.00047> (Published)

Semantic and influence aware k-representative queries over social streams, by WANG, Yanhao; LI, Yuchen; TAN, Kianlee. (2019.0). *Advances in Database Technology: Proceedings of the 22nd International Conference on Extending Database Technology EDBT 2019, March 26-29, Lisbon, Portugal*, (pp. 181-192) Konstanz, Germany: Open Proceedings. <https://doi.org/10.5441/002/edbt.2019.17> (Published)

Heterogeneous embedding propagation for large-scale e-commerce user alignment, by ZHENG, Vincent W.; SHA, Mo; LI, Yuchen; YANG, Hongxia; FANG, Yuan; ZHANG, Zhenjie; TAN, Kian-Lee; CHANG, Kevin Chen-Chuan. (2018.0). *2018 IEEE International Conference on Data Mining ICDM: Singapore, November 17-20: Proceedings*, (pp. 1434-1439) Los Alamitos, CA: IEEE Computer Society. <https://doi.org/10.1109/ICDM.2018.00198> (Published)

Accelerating Dynamic Graph Analytics on GPUs, by SHA, Mo; LI, Yuchen; HE, Bingsheng; TAN, Kian-Lee. (2017.0). *Proceedings of the VLDB Endowment: 44th International Conference on Very Large Data Bases, Rio de Janeiro, Brazil, 2017 August 27-31*, (pp. 107-120) Stanford, CA: VLDB Endowment. <https://doi.org/10.14778/3136610.3136619> (Published)

Trajectory-driven influential billboard placement, by ZHANG, Ping; BAO, Zhifeng; LI, Yuchen; LI, Guoliang; ZHANG, Yipeng; PENG, Zhiyong. (2018.0). *KDD '18: Proceedings of the 24th ACM SIGKDD International Conference on Knowledge Discovery & Data Mining, London, August 19-23*, (pp. 2748-2757) New York: ACM. <https://doi.org/10.1145/3219819.3219946> (Published)

OCTOPUS: An online topic-aware influence analysis system for social networks, by FAN, Ju; QIU, Jiarong; LI, Yuchen; MENG, Qingfei; ZHANG, Dongxiang; LI, Guoliang; TAN, Kian-Lee; DU, Xiaoyong. (2018.0). *2018 IEEE International Conference on Data Engineering 34th ICDE: Paris, April 16-19: Proceedings*, (pp. 1569-1572) Los Alamitos, CA: IEEE Computer Society. <https://doi.org/10.1109/ICDE.2018.00178> (Published)

A sliding-window framework for representative subset selection, by WANG, Yanhao; LI, Yuchen; TAN, Kian-Lee. (2018.0). *2018 IEEE 34th International Conference on Data Engineering (ICDE): Paris, April 16-19: Proceedings*, (pp. 1268-1271) Los Alamitos, CA: IEEE Computer Society. <https://doi.org/10.1109/ICDE.2018.00127> (Published)

Real-Time Influence Maximization on Dynamic Social Streams, by WANG, Yanhao; FAN, Qi; LI, Yuchen; TAN, Kian-Lee. (2017.0). *Proceedings of the VLDB Endowment: 43rd International Conference on Very Large Data Bases, Munich, Germany, 2017 August 28 - September 1*, (pp. 805-816) Stanford, CA: VLDB Endowment. <https://doi.org/10.14778/3067421.3067429> (Published)

Parallel Personalized PageRank on Dynamic Graphs, by GUO, Wentian; LI, Yuchen; SHA, Mo; TAN, Kian-Lee. (2017.0). *Proceedings of the 44th International Conference on Very Large Data Bases, Rio de Janeiro, Brazil, 2017 September 1*, (pp. 93-106) Rio de Janeiro, Brazil: <https://doi.org/10.14778/3151113.3151121> (Published)

Discovering your selling points: Personalized social influential tags exploration, by LI, Yuchen; TAN, Kian-Lee; FAN, Ju; ZHANG, Dongxiang. (2017.0). *SIGMOD '17: Proceedings of the 2017 ACM International Conference on Management of Data, Chicago, IL, May 14-19*, (pp. 619-634) New York: ACM. <https://doi.org/10.1145/3035918.3035952> (Published)

Context-aware advertisement recommendation for high-speed social news feeding, by LI, Yuchen; ZHANG, Dongxiang; LAN, Ziquan; TAN, Kian-Lee. (2016.0). *2016 IEEE 32nd International Conference on Data Engineering: Helsinki, Finland, May 16-20: Proceedings*, (pp. 505-516) Los Alamitos, CA: IEEE Computer Society. <https://doi.org/10.1109/ICDE.2016.7498266> (Published)

Real-time targeted influence maximization for online advertisements, by LI, Yuchen; ZHANG, Dongxiang; TAN, Kian-Lee. (2015.0). *Proceedings of the VLDB Endowment: 41st International Conference on VLDB Endowment, Kohala Coast, Hawaii, 2015 August 31-September 4*, (pp. 1070-1081) Stanford, CA: VLDB Endowment. <https://doi.org/10.14778/2794367.2794376> (Published)

Conference Papers

River: A real-time influence monitoring system on social media stream, by SHA, Mo; LI, Yuchen; WANG,

Yanhao; GUO, Wentian; TAN, Kian-Lee. (2018.0). *IEEE International Conference on Data Mining*, Singapore. (Published)

Real time personalized search on social networks, by LI, Yuchen; BAO, Zhifeng; LI, Guoliang; TAN, Kian-Lee. (2015.0). *2015 IEEE 31st International Conference on Data Engineering (ICDE)*, Seoul, Korea, April 13-17, Seoul, Korea. (Presented)

Research Grants

Singapore Management University

CONQUEROR:CONcurrent graph QUERy processing on CPU-GPU heterOgenous aRchitecture, Academic Research Fund (AcRF) Tier 2, Ministry of Education (MOE) , PI (Project Level): LI Yuchen, 2020, S\$547,680

Next-Gen Competitive Intelligence: Automated Discovery of Outstanding Facts with Large Language Models, SMU Internal Grant, Ministry of Education (MOE) Tier 1 , PI (Project Level): LI Yuchen , Co-PI (Project Level): DAI Bing Tian, 2024, S\$200,000

PPS: A Personalized Platform for Summarizing Social Media Stream, SMU Internal Grant, Ministry of Education (MOE) Tier 1 , PI (Project Level): LI Yuchen, 2018, S\$99,386.34

TEACHING

Courses Taught

Singapore Management University

Undergraduate Programmes :

- Advanced Database Systems
- Data Management
- IS Project Experience (Applications)
- Mathematical Foundations of Computing

Postgraduate Professional Programmes :

- Capstone Project - Data Science and Engineering

Postgraduate Research Programmes :

- Empirical Research Project 1
- Empirical Research Project 2
- Empirical Research Project 3
- Empirical Research Project 4

THESES AND DISSERTATIONS

Theses and Dissertations Assessed

Singapore Management University

Committee Member, "Finding top-m leading records in temporal data", Dissertation by WANG YIYI, Master of Philosophy in Information Systems, Singapore Management University, 2022

EXTERNAL SERVICE – PROFESSIONAL

Committee Member, IEEE BigData 2020, 2020

Committee Member, The 2020 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining, 2020

Committee Member, 40th IEEE International Conference on Distributed Computing Systems, 2020

Committee Member, The 46th International Conference on Very Large Data Bases, 2020

Committee Member, THE 24TH PACIFIC-ASIA CONFERENCE ON KNOWLEDGE DISCOVERY AND DATA MINING, 2020

Committee Member, 2019 IEEE International Conference on Big Data, 2019

Committee Member, ER 2019 – 38th International Conference on Conceptual Modeling, 2019

Committee Member, The 28th ACM International Conference on Information and Knowledge Management (CIKM), 2019

Committee Member, The 2019 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining, 2019

Reviewer Journal Article, ACM Transactions on Web, 2018

Committee Member, The 29th International Conference on Database and Expert Systems Applications, 2018

Committee Member, The 37th International Conference on Conceptual Modeling, 2018

Committee Member, The 24th International Conference on Parallel and Distributed Systems, 2018

Reviewer Journal Article, ACM Transactions on Data Science, 2018

Reviewer Journal Article, IEEE Transactions on Knowledge and Data Engineering, 2018

Reviewer Journal Article, IEEE Transactions on Network Science and Engineering, 2018

Committee Member, 2018 IEEE International Conference on Data Mining, 2018

Reviewer Journal Article, IEEE Transactions on Big Data, 2018

Reviewer Journal Article, IEEE Access, 2018

Committee Member, The 26th ACM Conference on Information and Knowledge Management, 2017

Committee Member, The 28th International Conference on Database and Expert Systems Applications, 2017

Committee Member, The 18th Asia Pacific Web Conference (APWeb 2016), 2016