Qualifications

Computer Science, PhD, Zhejiang University
Sept 2012 → Jun 2018
Award Date: 30 Jun 2018

Computer Science, BSc, Sichuan University
Sept 2008 → Jun 2012
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Research outputs

Worker-Churn-based Task Assignment with Context-LSTM in Spatial Crowdsourcing

Zhao, Y., Lai, T., Wang, Z., Chen, K., Li, H. & Zheng, K., 1 Sept 2023, In: I E E E Transactions on Knowledge & Data Engineering. 35, 9, p. 9783-9796 14 p., 10054427.

Towards Indoor Temporal-variation aware Shortest Path Query

Liu, T., Feng, Z., Li, H., Lu, H., Cheema, M. A., Cheng, H. & Xu, J., Jan 2023, In: IEEE Transactions on Knowledge and Data Engineering. 35, 1, p. 998-1012 15 p.

Data Imputation for Sparse Radio Maps in Indoor Positioning

Li, X., Li, H., Chan, H. K. H., Lu, H. & Jensen, C. S., 2023, *Proceedings - 2023 IEEE 39th International Conference on Data Engineering, ICDE 2023.* IEEE Computer Society Press, p. 2235-2248 14 p. (Proceedings of the International Conference on Data Engineering).

Data Imputation for Sparse Radio Maps in Indoor Positioning (Extended Version)

Li, X., Li, H., Chan, H. K-H., Lu, H. & Jensen, C. S., 2023, arXiv.

LightCTS: A Lightweight Framework for Correlated Time Series Forecasting

Lai, Z., Zhang, D., Li, H., Jensen, C. S., Lu, H. & Zhao, Y., 2023, In: Proceedings of the ACM on Management of Data. 1, 2, p. 1-26 26 p., 125.

LightCTS: A Lightweight Framework for Correlated Time Series Forecasting

Lai, Z., Zhang, D., Li, H., Jensen, C. S., Lu, H. & Zhao, Y., 2023, arXiv, 15 p.

Missing Value Imputation for Multi-attribute Sensor Data Streams via Message Propagation

Li, X., Li, H., Lu, H., Jensen, C. S., Pandey, V. & Markl, V., 2023, In: Proceedings of the VLDB Endowment. 17, 3, p. 345-358 14 p.

Missing Value Imputation for Multi-attribute Sensor Data Streams via Message Propagation (Extended Version)

Li, X., Li, H., Lu, H., Jensen, C. S., Pandey, V. & Markl, V., 2023, arXiv, 18 p.

Spatial Data Quality in the Internet of Things: Management, Exploitation, and Prospects

Li, H., Lu, H., Jensen, C. S., Tang, B. & Cheema, M. A., 2023, In: ACM Computing Surveys. 55, 3, p. 57:1-57:41 3498338.

GHive: Accelerating Analytical Query Processing in Apache Hive via CPU-GPU Heterogeneous Computing

Liu, H., Tang, B., Zhang, J., Deng, Y., Yan, X., Zheng, X., Shen, Q., Zeng, D., Mao, Z., Zhang, C., You, Z., Wang, Z., Jiang, R., Wang, F., Yiu, M. L., Li, H., Han, M., Li, Q. & Luo, Z., 7 Nov 2022, *SoCC 2022 - Proceedings of the 13th Symposium on Cloud Computing.* Association for Computing Machinery, p. 158-172 15 p.

Spatial data analysis for intelligent buildings: Awareness of context and data uncertainty

Li, H., Liu, T., Chan, H. K. H. & Lu, H., 7 Nov 2022, In: Frontiers in Big Data. 5, 1049198.

GHive: A Demonstration of GPU-Accelerated Query Processing in Apache Hive

Liu, H., Tang, B., Zhang, J., Deng, Y., Zheng, X., Shen, Q., Yan, X., Zeng, D., Mao, Z., Zhang, C., You, Z., Wang, Z., Jiang, R., Wang, F., Yiu, M. L., Li, H., Han, M., Li, Q. & Luo, Z., 10 Jun 2022, *SIGMOD 2022 - Proceedings of the 2022 International Conference on Management of Data.* Association for Computing Machinery, p. 2417-2420 4 p. (Proceedings

of the ACM SIGMOD International Conference on Management of Data).

Continuous Social Distance Monitoring in Indoor Space
Chan, H. K. H., Li, H., Li, X. & Lu, H., 2022, In: Proceedings of the VLDB Endowment. 15, 7, p. 1390-1402 13 p.

Diverse Shortest Paths in Game Maps: A Comparative User Study and Experiments
Li, L., Cheema, M. A., Ali, M. E., Lu, H. & Li, H., 2022, *Databases Theory and Applications: 33rd Australasian Database Conference, ADC 2022, Proceedings.* Hua, W., Wang, H. & Li, L. (eds.). Springer, p. 76-88 13 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), Vol. 13459 LNCS).

Efficient and Error-bounded Spatiotemporal Quantile Monitoring in Edge Computing Environments
Li, H., Yi, L., Tang, B., Lu, H. & Jensen, C. S., 2022, In: Proceedings of the VLDB Endowment. 15, 9, p. 1753-1765 13 p.

IKAROS: An Indoor Keyword-Aware Routing System
Liu, T., Feng, Z., Li, H., Lu, H., Shou, L. & Xu, J., 2022, *Proceedings - 2022 IEEE 38th International Conference on Data Engineering, ICDE 2022.* IEEE Computer Society Press, p. 3182-3185 4 p. (Proceedings - International Conference on Data Engineering, Vol. 2022-May).

Spatial Data Quality in the IoT Era: Management and Exploitation
Li, H., Tang, B., Lu, H., Cheema, M. A. & Jensen, C. S., 2022, *SIGMOD 2022 - Proceedings of the 2022 International Conference on Management of Data.* Association for Computing Machinery, p. 2474-2482 9 p. (Proceedings of the ACM SIGMOD International Conference on Management of Data).

Towards A Question Answering System over Temporal Knowledge Graph Embeddings
Otte, K., Vestermark, K. S., Li, H. & Dell'Aglio, D., 2022, In: CEUR Workshop Proceedings. 3342

Time-Constrained Indoor Keyword-Aware Routing
Chan, H. K. H., Liu, T., Li, H. & Lu, H., 23 Aug 2021, *Proceedings of 17th International Symposium on Spatial and Temporal Databases, SSTD 2021.* Association for Computing Machinery, p. 74-84 11 p.

Impact of COVID-19 on IoT Adoption in Healthcare, Smart Homes, Smart Buildings, Smart Cities, Transportation and Industrial IoT
Umair, M., Cheema, M. A., Cheema, O., Li, H. & Lu, H., 1 Jun 2021, In: Sensors. 21, 11, 3838.

Towards Crowd-aware Indoor Path Planning
Liu, T., Li, H., Lu, H., Cheema, M. A. & Shou, L., 30 Apr 2021, In: Proceedings of the VLDB Endowment. 14, 8, p. 1365-1377 13 p.

Indoor Spatial Queries: Modeling, Indexing, and Processing
Liu, T., Li, H., Lu, H., Cheema, M. A. & Shou, L., Mar 2021, *Advances in Database Technology — EDBT 2021: 24th International Conference on Extending Database Technology, Nicosia, Cyprus, March 23–26, 2021, Proceedings.* Velegrakis, Y., Zeinalipour, D., Chrysanthis, P. K. & Guerra, F. (eds.). OpenProceedings.org, p. 181-192 12 p. (Advances in Database Technology).

Toward Translating Raw Indoor Positioning Data into Mobility Semantics
Li, H., Lu, H., Chen, G., Chen, K., Chen, Q. & Shou, L., Nov 2020, In: ACM Transactions on Data Science. 1, 4, 37 p., 26.

Indoor Mobility Semantics Annotation Using Coupled Conditional Markov Networks
Li, H., Lu, H., Cheema, M. A., Shou, L. & Chen, G., Apr 2020, *The 36th IEEE International Conference on Data Engineering (ICDE 2020).* IEEE, p. 1441-1452 12 p. 9101369. (Proceedings of the International Conference on Data Engineering).

Indoor Top-k Keyword-aware Routing Query
Feng, Z., Liu, T., LI, HUAN., Lu, H., Shou, L. & Xu, J., Apr 2020, *2020 IEEE 36th International Conference on Data Engineering (ICDE).* IEEE, p. 1213-1224 12 p. 9101652. (Proceedings of the International Conference on Data

Engineering).

Shortest Path Queries for Indoor Venues with Temporal Variations
Liu, T., Feng, Z., Li, H., Lu, H., Cheema, M. A., Cheng, H. & Xu, J., Apr 2020, *The 36th IEEE International Conference on Data Engineering (ICDE 2020).* IEEE, p. 2014-2017 4 p. 9101764. (Proceedings of the International Conference on Data Engineering).

Finding Most Popular Indoor Semantic Locations Using Uncertain Mobility Data
Li, H., Lu, H., Shou, L., Chen, G. & Chen, K., 1 Nov 2019, In: IEEE Transactions on Knowledge and Data Engineering. 31 , 11, p. 2108 - 2123 16 p., 8486725.

Finding Most Popular Indoor Semantic Locations Using Uncertain Mobility Data [Extended Abstract]
Li, H., Lu, H., Shou, L., Chen, G. & Chen, K., 2019, *The 35th IEEE International Conference on Data Engineering (ICDE).* IEEE, p. 2139-2140 2 p. 8731528. (Proceedings of the International Conference on Data Engineering).

In Search of Indoor Dense Regions: An Approach Using Indoor Positioning Data [Extended abstract]
Li, H., Lu, H., Shou, L., Chen, G. & Chen, K., 2019, *Proceedings of the 35th IEEE International Conference on Data Engineering (ICDE).* IEEE, p. 2127-2128 2 p. 8731549. (Proceedings of the International Conference on Data Engineering).

In Search of Indoor Dense Regions: An Approach Using Indoor Positioning Data
Li, H., Lu, H., Shou, L., Chen, G. & Chen, K., 1 Aug 2018, In: IEEE Transactions on Knowledge and Data Engineering. 30 , 8, p. 1481-1495 15 p.

TRIPS: A System for Translating Raw Indoor Positioning Data into Visual Mobility Semantics
Li, H., Lu, H., Shi, F., Chen, G., Chen, K. & Shou, L., 2018, In: Proceedings of the VLDB Endowment. 11, 12, p. 1918-1921

Vita: A Versatile Toolkit for Generating Indoor Mobility Data for Real-World Buildings
Li, H., Lu, H., Chen, X., Chen, G., Chen, K. & Shou, L., 2016, In: Proceedings of the VLDB Endowment. 9, 13, p. 1453-1456 4 p.

E2C2: Efficient and Effective Camera Calibration in Indoor Environments
Li, H., Peng, P., Lu, H., Shou, L., Chen, K. & Chen, G., 2015, *Adjunct Proceedings of the 2015 ACM International Joint Conference on Pervasive and Ubiquitous Computing and Proceedings of the 2015 ACM International Symposium on Wearable Computers.* Association for Computing Machinery, p. 9-12

Projects

Data Management Foundations for Indoor LBS
Lu, H., Li, H. & Liu, T.
01/01/2019 → 31/12/2021

MALOT: Managing Mobility Data Quality for Location of Things
Li, H., Lu, H., Jensen, C. S. & Fan, W.
15/04/2020 → 14/04/2022

PREDICTION-ENABLED DYNAMIC SCHEDULING OF HOUSEHOLD ELECTRICITY USAGE
Zhang, D. & Li, H.
01/01/2023 → 01/07/2023