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RESEARCH INTERESTS

Internet of Things, Urban Computing, Mobile and Pervasive Computing, and Big Data Analytics

EMPLOYMENT

2017.07 - present *Assistant Professor*, Shenzhen University, China
2015.01 - 2017.06 *Research Fellow*, Nanyang Technological University, Singapore

EDUCATION

2009.09 - 2014.09 *Zhejiang University*, Hangzhou, China
Ph.D. in Computer Science
Thesis: Research on Efficient Continuous Data Collection Techniques for Wireless Sensor Networks (Advisor: *Prof. Dongming Lu*)
2005.09 - 2009.06 *Northeastern University*, Shenyang, China
B.E. in Computer Science

PUBLICATION

^ refers to the students I have advised or co-advised, * indicates corresponding author.

Refereed Conference Papers

- DASFAA'21** [C14] [Zhidan Liu](#), Junhong Zheng[^], Zengyang Gong[^], Haodi Zhang, Kaishun Wu. "Exploiting Multi-Source Data for Adversarial Driving Style Representation Learning", In DASFAA, Taipei, Taiwan, April, 2021. (**CCF Rank-B**)
- HPCC'20** [C13] Baofu Huang[^], [Zhidan Liu](#)^{*}, Kaishun Wu. "Structure Preserved Graph Reordering for Fast Graph Processing Without the Pain", In IEEE HPCC, Fiji, December, 2020. (**Acceptance Rate: 58/379 = 15%, CCF Rank-C**)
- ICPADS'20** [C12] Baofu Huang[^], [Zhidan Liu](#)^{*}, Kaishun Wu. "Accelerating PageRank in Shared-Memory for Efficient Social Network Graph Analytics", In IEEE ICPADS, HongKong, China, December, 2020. (**Best Paper Award, CCF Rank-C**)
- ICCCN'20** [C11] Zengyang Gong[^], Bo Du, [Zhidan Liu](#), Wei Zeng, Pascal Perez, Kaishun Wu. "SD-seq2seq : A Deep Learning Model for Bus Bunching Prediction Based on Smart Card Data", In IEEE ICCCN, Honolulu, Hawaii, USA, August 2020. (**CCF Rank-C**)
- ICDE'20** [C10] [Zhidan Liu](#), Zengyang Gong[^], Jiangzhou Li[^], Kaishun Wu. "Mobility-Aware Dynamic Taxi Ridesharing", In IEEE ICDE, Dallas, Texas, USA, April 2020. (**CCF Rank-A**)

- MSN'19** [C9] Zhidan Liu, Mingliang Huang[^], Zhi Ye[^], Kaishun Wu. "DeepRTP: A Deep Spatio-Temporal Residual Network for Regional Traffic Prediction", In IEEE MSN, Hong Kong, China, December 2019. (**Invited paper, CCF Rank-C**)
- MobiSys'19** [C8] Yang Liu, Zhenjiang Li, Zhidan Liu, Kaishun Wu. "Real-time Arm Skeleton Tracking and Gesture Inference Tolerant to Missing Wearable Sensors", In ACM MobiSys, Seoul, Republic of Korea, June 2019. (**Acceptance Rate: 40/174 = 22%, CCF Rank-B**)
- IPSN'18** [C7] Chu Cao[^], Zhidan Liu, Mo Li, Qin Zheng, Wenqiang Wang. "Walkway Discovery from Large Scale Crowdsensing", In ACM/IEEE IPSN, Porto, Portugal, April 2018. (**Acceptance Rate: 22/82 = 26%, CCF Rank-B**)
- MobiHoc'14** [C6] Zhidan Liu, Zhenjiang Li, Mo Li, Wei Xing, Dongming Lu. "Path Reconstruction in Dynamic Wireless Sensor Networks using Compressive Sensing", In ACM MobiHoc, Philadelphia, USA, August 2014. (**Acceptance Rate: 40/211 = 18%, CCF Rank-B**)
- ICCC'13** [C5] Zhidan Liu, Wei Xing, Yongchao Wang, Dongming Lu. "Hierarchical Spatial Clustering in Multi-hop Wireless Sensor Networks", In IEEE ICC, Xi'an, China, August 2013.
- AINA'13** [C4] Zhidan Liu, Wei Xing, Bo Zeng, Yongchao Wang, Dongming Lu. "Distributed Spatial Correlation-based Clustering for Approximate Data Collection in WSNs", In IEEE AINA, Barcelona, Spain, March 2013.
- ICACT'13** [C3] Zhidan Liu, Wei Xing, Yongchao Wang, Dongming Lu. "An Energy-Efficient Data Collection Scheme for Wireless Sensor Networks", In IEEE ICACT, PyeongChang, Korea, January 2013.
- CyberC'12** [C2] Bo Zeng, Yabo Dong, Zhidan Liu, Dongming Lu. "A Workload-Aware Link Scheduling for Heterogeneous Wireless Sensor Networks", In IEEE CyberC, Sanya, China, October 2012.
- WiCom'12** [C1] Zhidan Liu, Wei Xing, Yongchao Wang, Dongming Lu. "Adaptive Data Storage for Querying in Wireless Sensor Networks", In IEEE WiCom, Shanghai, China, September 2012.

Refereed Journal Articles

- IOTJ'21** [J11] Zhidan Liu, Zengyang Gong[^], Jiangzhou Li[^], Kaishun Wu, "mT-Share: A Mobility-Aware Dynamic Taxi Ridesharing System", IEEE Internet of Things Journal, accepted to appear. (**IF: 9.936, 中科院大类一区, JCR Q1**)
- TITS'20** [J10] Zhidan Liu, Jiangzhou Li[^], Kaishun Wu. "Context-Aware Taxi Dispatching at City-Scale Using Deep Reinforcement Learning", IEEE Transactions on Intelligent Transportation Systems, accepted to appear. (**IF: 6.319, CCF B-Rank, 中科院小类一区, JCR Q1**)
- IOTJ'20** [J9] Shiwei Song, Zhidan Liu, Zhenjiang Li, Tianzhang Xing, Dingyi Fang. "Coverage-Oriented Task Assignment for Mobile Crowdsensing", IEEE Internet of Things Journal, Vol. 7, Issue 8, Pages 7407-7418, April 2020. (**IF: 9.936, 中科院大类一区, JCR Q1**)
- IOTJ'19** [J8] Zhidan Liu, Zhenjiang Li, Kaishun Wu. "UniTask: A Unified Task Assignment

- Design for Mobile Crowdsourcing based Urban Sensing*", IEEE Internet of Things Journal, Vol.6 Issue 4, Pages 6629-6641, August 2019. (IF: 9.936, 中科院大类一区, JCR Q1)
- TMC'19** [J7] Zhidan Liu, Pengfei Zhou, Zhenjiang Li, Mo Li. "Think Like A Graph: Real-Time Traffic Estimation at City-Scale", IEEE Transactions on Mobile Computing, Vol. 18, Issue 10, Pages 2446-2459, October 2019. (IF: 5.112, CCF A-Rank, 中科院大类二区, JCR Q1)
- Network'18** [J6] Zhidan Liu, Zhenjiang Li, Kaishun Wu, Mo Li. "Urban Traffic Prediction from Mobility Data Using Deep Learning", IEEE Network Magazine, Vol. 32, Issue 4, Pages 40-46, August 2018. (IF: 8.808, 中科院大类一区, JCR Q1)
- TITS'17** [J5] Zhidan Liu, Shiqi Jiang, Pengfei Zhou, and Mo Li. "A Participatory Urban Traffic Monitoring System: The Power of Bus Riders", IEEE Transactions on Intelligent Transportation Systems, Vol. 18, Issue 10, Pages 2851 - 2864, October 2017. (IF: 4.051, CCF B-Rank, 中科院小类一区, JCR Q1)
- TON'16** [J4] Zhidan Liu, Zhenjiang Li, Mo Li, Wei Xing, and Dongming Lu. "Path Reconstruction in Dynamic Wireless Sensor Networks Using Compressive Sensing", IEEE/ACM Transactions on Networking, Vol. 24, Issue 4, Pages 1948 - 1960, August 2016. (IF: 3.376, CCF A-Rank, 中科院大类二区, JCR Q1)
- TITS'16** [J3] Zhidan Liu, Zhenjiang Li, Mo Li, Wei Xing, and Dongming Lu. "Mining Road Network Correlation for Traffic Estimation via Compressive Sensing", IEEE Transactions on Intelligent Transportation Systems, Vol. 17, Issue 7, Pages 1880 - 1893, July 2016. (IF: 3.724, CCF B-Rank, 中科院小类一区, JCR Q1)
- IJDSN'14** [J2] Bo Zeng, Yabo Dong, Zhidan Liu. "A Negotiation-Based TDMA Scheduling with Consecutive Slots Assignment for Wireless Sensor Networks", International Journal of Distributed Sensor Networks, 2014. (IF: 1.239, 中科院大类四区, JCR Q4)
- IJDSN'13** [J1] Zhidan Liu, Wei Xing, Yongchao Wang, Dongming Lu. "Hierarchical Spatial Clustering in Multihop Wireless Sensor Networks", International Journal of Distributed Sensor Networks, 2013. (IF: 1.239, 中科院大类四区, JCR Q4)

Books, Poster and Demo

- SpringerBrief** [B1] Zhidan Liu, Kaishun Wu. "[Mobility Data-Driven Urban Traffic Monitoring](#)", Springer, Singapore, May, 2021.
- MobiSys'19** [P1] Yang Liu, Chengdong Lin, Zhenjiang Li, Zhidan Liu, Kaishun Wu. "Poster: When Wearable Sensing Meets Arm Tracking", In ACM MobiSys 2019, Seoul, Republic of Korea, June 2019.
- IPSN'18** [D1] Chu Cao[^], Zhidan Liu, Mo Li, Qin Zheng, Wenqiang Wang. "Demo Abstract: Walkway Discovery from Large Scale Crowdsensing", In ACM/IEEE IPSN, Porto, Portugal, April 2018.

Patents

- [1] 刘志丹, 李江舟, 伍楷舜, 一种基于深度强化学习的出租车调度方法及系统(ZL202010521882.1),

2021.07, 中国发明专利

FUNDS

本人主持项目 (Principal Investigator)

[PI-7] 2022.01 - 2025.12	基于移动情境感知的个性化共享出行关键技术研究 <i>Research on the Key Technologies of Mobility Context Aware Personalized Ridesharing</i> 国家自然科学基金 (NSFC) - 面上项目, 负责人 Grant No. 62172284, 59 万元 (590K CNY)
[PI-6] 2019.01 - 2021.12	基于移动轨迹大数据的城市交通智能感知研究 <i>Research on Exploiting Big Mobility Trajectory Data for Smart Sensing of Urban Traffic</i> 国家自然科学基金 (NSFC) - 青年项目, 负责人 Grant No. 61802261, 25 万元 (250K CNY)
[PI-5] 2019.10 - 2022.09	面向智慧城市的群智感知与数据分析技术研究 <i>Joint Research of Crowdsensing and Data Analytics for Smart City</i> 广东省自然科学基金 - 面上项目, 负责人 Grant No. 2020A1515011502, 10 万元 (100K CNY)
[PI-4] 2019.11 - 2022.10	基于群智感知增强的城市交通感知与计算研究 <i>Crowdsensing Augmented Urban Traffic Sensing and Computing</i> 深圳大学高水平大学二期建设项目, 负责人 Grant No. 860/000002110324, 14 万元 (140K CNY)
[PI-3] 2018.01 - 2021.12	基于移动大数据的智能交通研究 <i>Research on Big Mobility Trajectory Data based Intelligent Transport Systems</i> 深圳市高端人才 (孔雀计划) 科研启动项目, 负责人 Grant No. 827/000344, 270 万元 (2700K CNY)
[PI-2] 2019.01 - 2020.12 (completed)	基于轨迹大数据的智能交通感知与计算的研究 <i>Research on Exploiting Big Trajectory Data for Intelligent Transport Sensing and Computing</i> 腾讯“犀牛鸟”-深圳大学青年教师科研基金项目, 负责人 Grant No. 201802, 5 万元 (50K CNY)
[PI-1] 2018.01 - 2020.12 (completed)	基于群智感知增强的城市交通感知与计算研究 <i>Research on Crowdsensing based Urban Sensing Framework</i> 深圳大学青年教师支持计划项目, 负责人 Grant No. 2018061, 6 万元 (60K CNY)

本人参与的代表性项目 (Co-PI)

[CO-PI-1] 2021.01 - 2024.12	基于多维度深层次感知信息的社群情境计算 <i>Multi-dimensional and Deep Perception Information based Social Computing</i>
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	国家自然科学基金 (NSFC) - 联合重点基金, 参与者 (第六) Grant No. U2001207, 255 万元 (2550K CNY)
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PROFESSIONAL SERVICE

	IEEE, since 2015
Membership	ACM, since 2018
	CCF, since 2020
Local Chair	EAI ICECI 2021
Conference Finance Chair	IEEE ICPADS 2018
	IEEE ICPADS 2017
TPC Member	2022 ACM WSDM
	2021 IEEE ICDCS, IEEE MASS
	2020 IEEE ICDCS, IEEE HiPC
	2019 IEEE MASS, IEEE MSN
	2018 IEEE ICPADS, IEEE ICCCN
	2017 IEEE ICPADS
Journal Reviewer	ACM Transactions on Spatial Algorithms and Systems (TSAS)
	IEEE Transactions on Knowledge and Data Engineering (TKDE)
	IEEE Transactions on Mobile Computing (TMC)
	IEEE Transactions on Intelligent Transportation Systems (TITS)
	IEEE Transactions on Wireless Communications (TWC)
	IEEE Transactions on Parallel and Distributed Systems (TPDS)
	IEEE/ACM Transactions on Networking (TON)
	ACM Transactions on Sensor Networks (TOSN)
	IEEE Transactions on Communications (TOC)
	IEEE Internet of Things Journal (JIOT)
	IEEE Communications Magazine
	IEEE Computational Intelligence Magazine
	Elsevier Pervasive and Mobile Computing (PMC)
	Ad Hoc & Sensor Wireless Networks (AHSWN)
IEEE Access	
Elsevier Computer Networks	
MDPI Sensors	
Conference Reviewer	ACM UbiComp (2019)
	IEEE INFOCOM (2014/2015/2016/2017/2018)
	ACM MobiSys (2017)
	ACM MobiCom (2015/2016)
	IEEE IoTDI (2016)
	IEEE ICNP (2016)
	IEEE ICPP (2015)
	IEEE ICPADS (2015)

SELECTED AWARDS

2020.12	IEEE ICPADS'20 Best Paper Award
2018.06	Shenzhen Nanshan District Pilot Talent Award (深圳市南山区领航人才)
2018.01	Shenzhen Peacock Plan Talent Award (深圳市海外高层次人才)

TEACHING*Courses Taught at Shenzhen University*

Introduction to Wireless Sensor Networks (无线传感器网络)	Since 2017 (Semester-1)
Internet Programming (in JAVA) (互联网编程)	Since 2017 (Semester-2)

Teaching Achievements

2021.07	指导本科生刘键聪等人成功申请到广东省省级大学生创新创业训练计划项目一项(项目名“基于深度学习的GPS定位辅助纠正系统”), 经费10000元
2021.05	获得深圳大学第十届青年教师讲课竞赛学院“二等奖”
2021.04	指导硕士研究生周莹倩等人成功申请到深圳大学研究生创新发展基金项目(自然科学)一项(项目名“面向时空大数据的查询与分析技术研究”), 经费8000元
2021.04	获得深圳大学2019-2020学年教学单项奖 - “优秀本科教师奖”
2020.12	获得2020年深圳大学腾讯益友奖“优秀班主任”
2020.12	获得2020年(第13届)中国大学生计算机设计大赛“星级优秀指导教师”称号
2020.08	指导本科生陈林桦、李宇良、刘键聪获得2020年(第13届)中国大学生计算机设计大赛全国一等奖(203 out of 30,000)
2020.06	指导的硕士研究生龚增阳获得深圳大学“2020届优秀毕业研究生”
2019.06	获得深圳大学第九届青年教师讲课竞赛学院“二等奖”
2019.04	指导本科生黄柱邦、钟金成、杨虎林获得2019年美国大学生数学建模竞赛(MCM/ICM)二等奖(H奖)

Students Advised➤ *Current master students*

Weixin Lin (林维鑫), 2019.09 ~ present
Junhong Zheng (郑俊鸿), 2019.09 ~ present
Meiquan Lai (赖美全), 2020.09 ~ present
Yingqian Zhou (周莹倩), 2020.09 ~ present
Hongquan Zhang (张鸿权), 2020.09 ~ present
Jiayue Ruan (阮家越), 2020.09 ~ present
Yaqi Huang (黄雅琪), 2021.09 ~ present
Guofeng Ouyang (欧阳国峰), 2021.09 ~ present

Alumnus

➤ *Graduated master students*

1. **Zengyang Gong** (龚增阳), 2017.09 ~ 2020.06
Awards: 2020 届优秀毕业研究生
Publications: IEEE ICDE'20, IEEE ICCCN'20
Employment: Ph.D student in HKUST
2. **Mingliang Huang** (黄明亮), 2017.09 ~ 2020.06
Publications: IEEE MSN'19
Employment: Sangfor Technologies (深信服)
3. **Jiangzhou Li** (李江舟), 2018.09 ~ 2021.06
Publications: IEEE Trans. ITS'20
Employment: Sangfor Technologies (深信服)
4. **Baofu Huang** (黄保福), 2018.09 ~ present
Awards: "Best Paper Award" of IEEE ICPADS'20
Publications: IEEE HPCC'20, IEEE ICPADS'20
Employment: Tencent (腾讯)

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