Dr. Zhidan Liu (刘志丹 博士/助理教授)

College of Computer Science and Software Engineering

Shenzhen University

Shenzhen, China, 518060

Phone: +86 (755) 86934659

E-mail: liuzhidan@szu.edu.cn

Homepage: http://liuzhidan.github.io/

RESEARCH INTERESTS

Mobile and Ubiquitous Computing, Big Data Analytics, Crowdsourcing, and Urban Computing

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] <u>*Zhidan Liu*</u>, 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 B-Rank**)

HPCC'20   [C13] Baofu Huang^, <u>*Zhidan Liu*</u>*, 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 C-Rank**)

ICPADS'20   [C12] Baofu Huang^, <u>*Zhidan Liu*</u>*, Kaishun Wu. "*Accelerating PageRank in Shared-Memory for Efficient Social Network Graph Analytics*", In IEEE ICPADS, HongKong, China, December, 2020. (**Best Paper Award**, **CCF C-Rank**)

ICCCN'20   [C11] Zengyang Gong^, Bo Du, <u>*Zhidan Liu*</u>, 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 C-Rank**)

ICDE'20   [C10] <u>*Zhidan Liu*</u>, Zengyang Gong^, Jiangzhou Li^, Kaishun Wu. "*Mobility-Aware Dynamic Taxi Ridesharing*", In IEEE ICDE, Dallas, Texas, USA, April 2020. (**CCF A-Rank**)

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 C-Rank**)

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 B-Rank**)

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 B-Rank**)

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 B-Rank**)

ICCC'13   [C5] *Zhidan Liu*, Wei Xing, Yongchao Wang, Dongming Lu. "*Hierarchical Spatial Clustering in Multi-hop Wireless Sensor Networks*", In IEEE ICCC, 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

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, 中科院一区, JCR Q1**)

JIOT'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, 中科院一区, JCR Q1**)

JIOT'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, 中科院一区, JCR Q1**)

TMC'19 [J7] <u>*Zhidan Liu*</u>, 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, 中科院二区, JCR Q1**)

Network'18 [J6] <u>*Zhidan Liu*</u>, 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, 中科院一区, JCR Q1**)

TITS'17 [J5] <u>*Zhidan Liu*</u>, 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, 中科院一区, JCR Q1**)

TON'16 [J4] <u>*Zhidan Liu*</u>, 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, 中科院二区, JCR Q1**)

TITS'16 [J3] <u>*Zhidan Liu*</u>, 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, 中科院一区, JCR Q1**)

IJDSN'14 [J2] Bo Zeng, Yabo Dong, <u>*Zhidan Liu.*</u> "*A Negotiation-Based TDMA Scheduling with Consecutive Slots Assignment for Wireless Sensor Networks*", International Journal of Distributed Sensor Networks, 2014. (**IF: 1.239, 中科院四区, JCR Q4**)

IJDSN'13 [J1] <u>*Zhidan Liu*</u>, Wei Xing, Yongchao Wang, Dongming Lu. "*Hierarchical Spatial Clustering in Multihop Wireless Sensor Networks*", International Journal of Distributed Sensor Networks, 2013. (**IF: 1.239, 中科院四区, JCR Q4**)

Books, Poster and Demo

SpringerBrief [B1] <u>*Zhidan Liu*</u>, Kaishun Wu. "<u>*Mobility Data-Driven Urban Traffic Monitoring*</u>", Springer, Singapore, May, 2021.

MobiSys'19 [P1] Yang Liu, Chengdong Lin, Zhenjiang Li, <u>*Zhidan Liu*</u>, Kaishun Wu. "*Poster: WhenWearable Sensing Meets Arm Tracking*", In ACM MobiSys 2019, Seoul, Republic of Korea, June 2019.

IPSN'18 [D1] Chu Cao^, <u>*Zhidan Liu*</u>, Mo Li, Qin Zheng, Wenqiang Wang. "*Demo Abstract: Walkway Discovery from Large Scale Crowdsensing*", In ACM/IEEE IPSN, Porto, Portugal, April 2018.

GRANTS

2019 - 2021	基于移动轨迹大数据的城市交通智能感知研究
	国家自然科学基金-青年项目，负责人
	Grant No. 61802261
2019 - 2022	面向智慧城市的群智感知与数据分析技术研究

广东省自然科学基金–面上项目，负责人

Grant No. 2020A1515011502

2018 - 2021	基于移动大数据的智能交通研究

深圳市高端人才（孔雀计划）科研启动项目，负责人

2019 – 2020 （已结题）	基于轨迹大数据的智能交通感知与计算的研究

腾讯"犀牛鸟"-深圳大学青年教师科研基金项目，负责人

2018 – 2020 （已结题）	基于群智感知增强的城市交通感知与计算研究

深圳大学青年教师支持计划项目，负责人

Grant No. 2018061

PROFESSIONAL SERVICE

Membership	IEEE, since 2015 ACM, since 2018 CCF, since 2020
Local Chair	EAI ICECI 2021
Conference Finance Chair	IEEE ICPADS 2018 IEEE ICPADS 2017
TPC Member	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)

IEEE/CIC ICCC (2013)

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

2021.04 获得深圳大学第十届青年教师讲课竞赛学院"二等奖"

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 (周荧倩) , 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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