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🗐 研究方向

边缘计算的资源调度、基于强化学习的资源调度、区块链、Edge AI 等。

🎓 教育背景

上海交通大学 上海   2023.06

博士 电子信息与电气工程学院计算机科学与技术系

导师：李颉教授，日本工程院外籍院士，千人计划，IEEE Fellow，上海交通大学讲席教授；贾维嘉教授，千人计划，IEEE Fellow，北师港浸大 (UIC) 副校长

上海交通大学 上海   2016.06

本科 电子信息与电气工程学院 IEEE 试点班（计算机方向）

💼 工作经历

上海交通大学 上海   2023.07 至今

助理研究员 计算机系

属于上海交通大学智能大数据系统实验室成员，受李颉教授领导，主要研究方向为边缘计算资源调度和区块链。

北京师范大学 (珠海校区) 珠海   2020.10 – 2022.09

研究助理 人工智能与未来网络研究院

基于边缘计算和人工智能的容器和任务调度、资源分配研究，包括基于层共享的容器调度、边缘依赖任务调度等。

澳门大学 澳门   2018.07 – 2020.07

研究助理 智慧城市物联网国家重点实验室

边缘智能研究，包括边缘计算物联网资源调度、基于表示学习和强化学习的智能调度、延迟敏感和计算密集型任务的联合调度等。

👥 项目经历

基于表示、强化与迁移学习的高效异构边缘计算调度算法   2023.01 – 2026.12

国家自然科学基金面上项目 No. 62272050，54 万元，北京师范大学

项目书主要撰写人，主要参与人。负责边缘计算在线任务调度算法设计。

分布式系统中任务-资源调度的表示与强化学习算法及其系统实现   2019.03 – 2022.12

澳门科学技术发展基金 No. 0060/2019/A1，210 万元，澳门大学

主要参与人。负责边缘计算中对于系统和任务的特征抽取机制设计，并基于强化学习、表示学习等方法实现边缘智能任务调度算法。

大规模人-机-物实体对象协同感知与关联   2016.01 – 2020.12

国家自然科学基金重点项目　No. 61532013，290 万元，上海交通大学

主要参与人。负责在边缘计算和云计算场景下容器与任务调度研究。

📑 论文发表

已发表：

1. **(CCF-A / JCR-Q1）Jiong Lou**, Zhiqing Tang, Weijia Jia, Wei Zhao, Jie Li. Startup-aware Dependent Task Scheduling with Bandwidth Constraints in Edge Computing. IEEE Transactions on Mobile Computing, 2024, 23(2): 1586-1600.

2. **(CCF-A / JCR-Q1）Jiong Lou**, Zhiqing Tang, Songli Zhang, Weijia Jia, Wei Zhao, Jie Li. Cost-Effective Scheduling for Dependent Tasks with Tight Deadline Constraints in Mobile Edge Computing. IEEE Transactions on Mobile Computing, 2023, 22(10): 5829-5845.

3. **(CCF-A / JCR-Q1）Jiong Lou**, Hao Luo, Zhiqing Tang, Weijia Jia, Wei Zhao. Efficient Container Assignment and Layer Sequencing in Edge Computing. IEEE Transactions on Services Computing, 2023, 16(2): 1118-1132.

4. **(CCF-C / JCR-Q2) Jiong Lou**, Zhiqing Tang, Weijia Jia. Energy-efficient Joint Task Assignment and Migration in Data Centers: A Deep Reinforcement Learning Approach. IEEE Transactions on Network and Service Management (TNSM), 2023, 20(2): 961-973.

5. **(CCF-C) Jiong Lou**, Zhiqing Tang, Xinyu Lu, Shijing Yuan, Jie Li, Weijia Jia, Chentao Wu. Efficient Serverless Function Scheduling in Edge Computing. ICC 2024-IEEE International Conference on Communications (ICC), 2024: 1-6.

6. **(CCF-A / JCR-Q1）** Zhiqing Tang, **Jiong Lou**, Weijia Jia. Layer Dependency-aware Learning Scheduling Algorithms for Containers in Mobile Edge Computing. IEEE Transactions on Mobile Computing, 2023, 22(6): 3444-3459.

7. **(CCF-A / JCR-Q1）** Zhiqing Tang, Fangyi Mou, **Jiong Lou**, Weijia Jia, Yuan Wu, Wei Zhao. Multi-user Layer-aware Online Container Migration in Edge-assisted vehicular Networks. IEEE/ACM Transactions on Networking, 2023, early access: 1-16.

8. **(CCF-A / JCR-Q1）** Zhiqing Tang, Fangyi Mou, **Jiong Lou**, Weijia Jia, Yuan Wu, Wei Zhao. Joint Resource Overbooking and Container Scheduling in Edge Computing. IEEE Transactions on Mobile Computing, 2024, accepted.

9. **(CCF-C)** Zhiqing Tang, **Jiong Lou**, Fuming Zhang, Weijia Jia. Dependent Task Offloading for Multiple Jobs in Edge Computing. 2020 29th International Conference on Computer Communications and Networks (ICCCN), 2020: 1-9.

10. **(CCF-B/JCR-Q1)** Songli Zhang, Weijia Jia, Zhiqing Tang, **Jiong Lou**, Wei Zhao.

Efficient Instance Reuse Approach for Service Function Chain Placement in Mobile Edge Computing. Computer Networks, 2022, 211: 109010.

11. **(CCF-C)** Fuming Zhang, Zhiqing Tang, **Jiong Lou**, Weijia Jia. Online Joint Scheduling of Delay-Sensitive and Computation-Oriented Tasks in Edge Computing. 2019 15th International Conference on Mobile Ad-Hoc and Sensor Networks (MSN), 2019: 303-308.

12. **(EI)** Hanshuai Cui, Zhiqing Tang, **Jiong Lou**, Weijia Jia. Online Container Scheduling for Low-Latency IoT Services in Edge Cluster Upgrade: A Reinforcement Learning Approach. 2023 IEEE/CIC International Conference on Communications in China (ICCC), 2023: 1-6.

13. **(CCF-C)** Fangyi Mou, Zhiqing Tang, **Jiong Lou**, Jianxiong Guo, Wenhua Wang, Tian Wang. Joint Task Scheduling and Container Image Caching in Edge Computing. 2024 20th International Conference on Mobile Ad-Hoc and Sensor Networks (MSN), 2024: 1-6.

14. **(CCF-C)** Shaohua Zhang, **Jiong Lou**, Xiaojie Zhou, Weijia Jia. Entity linking facing incomplete knowledge base. Web Information Systems Engineering–WISE 2018: 19th International Conference (WISE). Springer International Publishing, 2018: 325-334.

15. **(CCF-C)** Yongjian You, Shaohua Zhang, **Jiong Lou**, Xinsong Zhang, Weijia Jia. Neural Typing Entities in Chinese-Pedia. Web and Big Data: Second International Joint Conference, APWeb-WAIM 2018. Springer International Publishing, 2018: 385-399.

审稿中：

1. **(CCF-A / JCR-Q1)** Hanshuai Cui, Zhiqing Tang, **Jiong Lou**, Weijia Jia, Wei Zhao. Latency-Aware Container Scheduling in Edge Cluster Upgrades: A Deep Reinforcement Learning Approach. IEEE Transactions on services Computing. Minor revision.

2. **(CCF-A / JCR-Q1)** Honghong Zeng, Jie Li, **Jiong Lou**, Shijing Yuan, Chentao Wu, Wei Zhao, Sijin Wu, Zhiwen Wang. BSR-FL: An Efficient Byzantine-Robust Privacy-Preserving Federated Learning Framework. IEEE Transactions on Computers. Major revision.

3. **(CCF-A / JCR-Q1)** Zhenzheng Li, **Jiong Lou**, Zhiqing Tang, Weijia Jia, Wei Zhao. Online Layer-aware Joint Resource Provision, Request Scheduling, and Container Placement in Edge Computing. IEEE Transactions on Mobile Computing. Under review.

4. **(CCF-A / JCR-Q1)** Xinyu Lu, **Jiong Lou**, Jie Li, Runhui Xu, Chentao Wu, Zhi Liu, Yuan Luo, Yang Yang. Towards Bi-level Supply/Demand Balanced Charging Systems via Online Power Scheduling. IEEE Transactions on Mobile Computing. Under review.

5. **(CCF-A / JCR-Q1)** Zhenzheng Li, **Jiong Lou**, Jianfei Wu, Jianxiong Guo, Zhiqing

Tang, Ping Shen, Weijia Jia, Wei Zhao. Online Container Scheduling with Fast Function Startup and Low Memory Cost in Edge Computing. IEEE Transactions on Computers. Under review.

6. **(CCF-A / JCR-Q1** Zhanbo Feng, Yuanjie Wang, Jie Li, Fan Yang, **Jiong Lou**, Tiebin Mi, Robert. C. Qiu, Zhenyu Liao. Robust and Communication-Efficient Federated Domain Adaptation via Random Features. IEEE Transactions on Knowledge and Data Engineering. Under review.

7. **(CCF-B)** Xinyu Lu, Jiawei Sun, **Jiong Lou**, Yusheng Ji, Chentao Wu, Guangtao Xue, Yuan Luo, Fan Cheng, Wei Zhao, Jie Li. Robust and Communication-Efficient Federated Domain Adaptation via Random Features. 2024 IEEE 44th International Conference on Distributed Computing Systems. Under review.

8. **(CCF-B)** Honghong Zeng, **Jiong Lou**, Kailai Li, Chentao Wu, Guangtao Xue, Yuan Luo, Fan Cheng, Wei Zhao, Jie Li. Toward Efficient Defense Against Model Poisoning Attacks in Privacy-Preserving Federated Learning. 2024 IEEE 44th International Conference on Distributed Computing Systems. Under review.

9. **(CCF-B)** Zihan Wang, Yusen Wang, Chentian Yuan, **Jiong Lou**, Jie Li, Na Ruan. A Comprehensive Framework for Front-Running Attacks on Blockchain Systems. 2024 IEEE 44th International Conference on Distributed Computing Systems. Under review.

▰ 专利申请

1. 李颉，苏志宏，吴晨涛，**娄炯**，阮娜，羊帆，基于表征相似度的联邦学习后门攻击算法及对应防御算法，发明专利，中国，CN202311830270.0 (申请号)，2023.12.27

2. 李颉，吴晨涛，阮娜，**娄炯**，于科学，苏志宏，羊帆，基于自适应优化器的联邦学习方法，发明专利，中国，CN202311828532.X (申请号)，2023.12.27

3. 贾维嘉，**娄炯**，唐志清，沈平，一种边缘计算容器分配和层下载排序体系结构及其方法，发明专利，CN113641448A (公开号)，2021.11.12，实审

4. 贾维嘉，**娄炯**，唐志清，一种面向边缘计算的启动时间感知的依赖任务调度方法，发明专利，CN115617474A (公开号)，2023.01.17，实审

5. 贾维嘉，**娄炯**，唐志清，一种面向边缘计算的时间约束的依赖任务调度方法及其应用，发明专利，CN115617473A (公开号)，2023.01.17，实审

6. 贾维嘉，唐志清，**娄炯**，边缘计算中基于多种计费模式的资源超售方法，发明专利，CN115617508A (公开号)，2023.01.17，实审

💬 学术经历

1. 审稿人

   (a) Computer Networks
   (b) IEEE Internet of Things Journal (IoT-J)
   (c) IEEE INFOCOM

(d) IEEE ICDCS

(e) Journal of Parallel and Distributed Computing

2. 课程

(a) 上海交通大学本科生课程，计算机科学中的数学基础，cs2304，2024 春
(b) 上海交通大学研究生课程，博弈论及其互联网的应用，cs7324，2024 春

3. 助教

(a) 上海交通大学本科生课程，计算机网络，2017

ⓘ 其他

1. 获奖情况：

(a) 上海交通大学校优秀毕业生，2016
(b) 上海交通大学校优秀党员，2016
(c) 上海交通大学博士优秀生源奖学金，2016
(d) 全国数学建模上海市一等奖，2014
(e) 上海交通大学学业优秀奖学金，2015