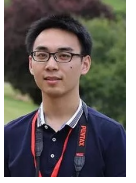


CONTACT

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INTERESTS

Cloud computing and distributed systems. Optimising the resource usage in cloud computing environment to promote the development of cloud technologies (e.g. energy efficiency, load balancing and container orchestration, microservice management).

POSITIONS

Shenzhen Institutes of Advanced Technology (SIAT), Shenzhen, China Postdoctoral Researcher/Assistant Professor	<i>2019.05-present</i>
Monash University (MONASH), Melbourne, Australia Research Assistant	<i>2018.11-2019.04</i>
University of Melbourne (UniMelb), Melbourne, Australia Research Assistant	<i>2018.11-2019.01</i>

EDUCATION

Ph.D, University of Melbourne, Australia ◇ Computer Science ◇ Thesis: Brownout-Oriented and Energy Efficient Management of Cloud Data Centers ◇ Supervisor: Prof. Rajkumar Buyya	<i>2015.10-2019.04</i>
M.S., University of Electronic Science and Technology of China (UESTC) ◇ Software Engineering (<i>With Honors</i>) ◇ Supervisor: Prof. Wenhong Tian	<i>2012.09-2015.06</i>
Exchange Student, National Taiwan University of Science and Technology	<i>2010.09-2011.01</i>
B.S., University of Electronic Science and Technology of China ◇ Software Engineering (<i>With Honors</i>)	<i>2008.09-2012.06</i>

HONORS

Awards

Best Service Award for HPBD&IS 2020
 IEEE Technical Committee on Scalable Computing (TCSC) Outstanding Ph.D Thesis 2019
 Nominee of John Makepeace Bennett award for the Australasian Distinguished PhD Dissertation 2019
 Shenzhen Overseas High-Caliber Personnel (Level C) 2019
 Google PhD Travel Scholarship Award 2017
 Mr. Tang Lixin Travel Scholarship 2017
 Excellent Graduate Student of UESTC 2015
 A-level Certificate for Overall quality of College Students in Sichuan Province 2015
 Mr. Tang Lixin's Scholarship 2014
 National Scholarship of China for Graduate Students (2013, 2014)
 First Grade of Beijing Tongtech Software Innovation Contest (rank 1 out of 30+ teams) 2014

Program Chair and Editor

CCF Technical Committee on Distributed Computing and Processing (TCDCP)	<i>2021-present</i>
CCF Technique Committee on Computer Architecture (TCARCH)	<i>2021-present</i>
Guest Editor, Journal of Cloud Computing	<i>2021-present</i>
Session Chair, ICCCBDA	<i>2021</i>
Research/Product Demonstrations Chair, IEEE/ACM CCGRID	<i>2021</i>
Publicity Co-Chair, IEEE/ACM CCGRID	<i>2020</i>

Keynotes

Invited keynote speaker, The 2nd International Conference of Advance Computing, 2021
 Panel discussion, CCF the 3rd High Energy Efficiency Computing Forum, 2020

CITATIONS	Google Scholar 771 citations (as of July 20, 2021) https://scholar.google.com/citations?user=KeJL7gEAAAAJ&hl=en&oi=ao Papers with 100 or more citations: 3 Papers with 20 or more citations: 10 H-index: 13, i10-index: 14
PUBLICATION SUMMARY	Cloud Computing ◊ Microservice Management: <i>T-SUSC 2020, CollaborateCom 2020</i> ◊ Energy Efficiency: <i>JPDC 2020, T-SUSC 2019, T-SUSC 2016, ICSOC 2019, ICSOC 2017</i> ◊ Virtual Machine Management: <i>CCGRID 2020, ICC 2014, CCIS 2012</i> ◊ Survey&Taxonomy: <i>CSUR 2019, CCPE 2017, SMPT 2015</i> Mobile Edge Computing ◊ Service Deployment: <i>SPE 2021, MEC 2020</i> ◊ Task Offloading: <i>IoT-J 2020, IoT-J 2021</i> Prototype Systems & Simulation Toolkits ◊ Container-based Prototype: <i>JSS 2019</i> ◊ Cloud Computing Simulators: <i>T-ASE 2015, CloudCom 2015</i>
SELECTED SERVICES	Reviewer for Journals IEEE/ACM Transactions on Networking (ToN) IEEE Transactions on Cloud Computing (TCC) IEEE Transactions on Sustainable Computing (TSUSC) IEEE Transactions on Industrial Informatics (TII) IEEE Transactions on Automation Science and Engineering (T-ASE) IEEE Transactions on Green Communications and Networking (TGCN) IEEE Internet of Things Journal (IoTJ) IEEE Open Journal of the Industrial Electronics Society (OJIES) IEEE Access Journal of Parallel and Distributed Computing (JPDC) Parallel Computing (PARCO) Future Generation Computer Systems (FGCS) Software: Practice and Experience (SPE) Journal of Computer Science and Technology (JCST) Journal of Network and Computer Applications (JNCA) Pervasive and Mobile Computing (PMC) Concurrency and Computation: Practice and Experience (CCPE) Sustainable Cities and Society (SCIS) Journal of Cloud Computing (JCC) Cluster Computing Computing Simulation Modelling Practice and Theory (SMPT) International Journal of Parallel, Emergent and Distributed Systems (IPEDS) CSI Transactions on ICT Journal of Information Science and Engineering (JISE) Computer Communications Applied Computing and Informatics (ACI) Enterprise Information Systems (EIS) International Journal of Pervasive Computing and Communications (IJPCC) Program Committee for Conferences IEEE/ACM CCGRID'2021, 2020, 2018 IEEE ICDCS'2021, 2020 ACSW'2021, 2020 (Australasian Symposium on Parallel and Distributed Computing) IEEE HPBD&IS'2020 CSWPCN'2020 ICCCN'2020 (Workshop: First Workshop on Intelligent Offloading for Internet of Things) IEEE HiPC'2019 (Big Data Pipelines workshop), 2020

IEEE CLOUD'2018
CECNet'2017
IEEE/ACM UCC'2017

Professional Societies

Member of Institute of Electrical and Electronics Engineers (IEEE) 2019.06-present
Member of China Computer Federation (CCF) 2019.06-present

TEACHING/
TUTORING UniMelb COMP90015, Distributed Systems 2018 Semester 2
UniMelb SWEN30006, Software Modelling and Design 2018 Semester 2
UniMelb SWEN30006, Software Modelling and Design 2018 Semester 1

ORAL
PRESENTATIONS IEEE/ACM CCGRID'2021, virtual. Topic: Energy Efficient Algorithms 2021.05
UESTC, Chengdu, China. Topic: Mobile Edge Computing 2021.04
ICCCBDA'2021, Chengdu, China. Session Chair 2021.04
ICACA'2021, virtual. Topic: Mobile Edge Computing 2021.03
South China University of Technology, online. Topic: Sustainable Computing 2020.12
CollaborateCom'2020, virtual. Topic: Reinforcement Learning in Cloud 2020.10
CCF the 3rd High Energy Efficiency Computing Forum. Topic: Sustainable Data Centers 2020.09
ICSOC'2019, Toulouse, France. Topic: Renewable Energy Provisioning 2019.10
Macao University, Macao, China. Topic: Energy Efficient Clouds 2019.08
2019 IEEE The Smart World Congress, Leicester, UK. Topic: PhD Research 2019.08
The UESTC International Forum for Young Scholars, Chengdu, China 2018.11
2018 CIS Doctor Colloquium, University of Melbourne, Melbourne, Australia 2018.09
UESTC, Chengdu, China. Topic: Brownout-Oriented Approaches 2018.06
SIAT, Shenzhen, China. Topic: Brownout-Oriented Approaches 2018.06
Southern University of Science and Technology, Shenzhen China. Topic: Brownout Approaches 2018.06
Sun Yat-sen University, Guangzhou, China. Topic: Brownout-Oriented Approaches 2018.06
Global Scientist Forum, Southern University of Science and Technology, Shenzhen, China 2018.01
ICSOC'2017, Malaga, Spain. Topic: Energy Efficient Scheduling of Application Components 2017.11
UESTC, Chengdu, China. Topic: Brownout Technique Introduction 2017.02
4th CIS Annual Doctoral Colloquium at the University of Melbourne, Melbourne Australia, 2016.07

SELECTED
GRANTS **PI, Microservice Platform Management** 2021.01-2023.12

- ◇ Sub research topic of key R & D plan of the Ministry of Science and Technology
- ◇ Objective: Building a microservice-based platform to support the data management.
- ◇ RMB 385,000

PI, Energy Efficient Management of Cloud Data Centers 2020.01-2021.12

- ◇ SIAT innovation program for excellent young researchers
- ◇ Objective: Proposeing energy efficient algorithms for holistic management of cloud data centers.
- ◇ RMB 80,000

Core member, Software Defined Approach of Cloud Management 2020.01-2022.12

- ◇ Key-Area research and development program of Guangdong Province
- ◇ Objective: Conducting research to achieve low-latency management of large-scale microservices clusters.
- ◇ RMB 20,000,000

Co-PI, CloudSim Research Project for Siemens MindSphere 2019.09-2019.12
 Supported by Siemens (Chengdu) Company
 Objective: Utilizing learning based approaches to model the Siemens applications deployed on Alibaba Cloud.
 RMB: 150,000

STUDENTS **Ms. Qi Fan** (2019.6-2019.8, MSc from USTB, → PhD at Ecole Polytechnique, Paris, France)
Mr. Qiheng Zhou (2019.7-2020.6, undergraduate from SYSU, one CCGRID 2020 paper, one SPE 2021 paper, →master at NUS)
Mr. Lingxiao Xu (2020.2-2020.12, postgraduate from UESTC, one CollaborateCom 2020 paper, → China Unicom)
Mr. Chenghao Song (2020.7-now, BSc from UESTC, → master at UniMelb)

Mr. **Lei Yang** (2020.12-2021.6, MSc at SIAT, co-supervised with Prof. Yang Wang, → Alibaba Inc.)
Mr. **Zhiheng Zhong** (2021.4-now, PhD at UniMelb)
Mr. **Cundao Yu** (2021.6-now, BSc at UESTC)

Publication List for Minxian Xu

Published papers: 28

First author/corresponding author: 18

The pdf files of all published journal papers, published conference papers and book chapters can be downloaded from <https://www.minxianxu.info/publications>. (* denotes corresponding author)

PHD THESIS

Minxian Xu, Brownout-Oriented and Energy Efficient Management of Cloud Data Centers, 2019
2019 IEEE Technical Committee on Scalable Computing Outstanding PhD Dissertation Award

JOURNALS

Minxian Xu, Qiheng Zhou, Huaming Wu, Weiwei Lin, Kejiang Ye, Chengzhong Xu, PDMA: Probabilistic Service Migration Approach for Delay-aware and Mobility-aware Mobile Edge Computing, *Software: Practice and Experience (SPE)*, 2021. (CCF B)

Min Xue, Huaming Wu, Ruidong Li, **Minxian Xu**, Pengfei Jiao, EoSDNN: An Efficient Offloading Scheme for DNN Inference Acceleration in Local-Edge-Cloud Collaborative Environments, *IEEE Transactions on Green Communications and Network (TGCN)*, 2021, under major revision. (CiteScore: 8.4)

Chengxi Gao, Shuhui Chu, Hong Xu, **Minxian Xu**, Kejiang Ye, Chengzhong Xu, Flash: Joint Flow Scheduling and Congestion Control in Data Center Networks, *IEEE Transactions on Cloud Computing (TCC)*, 2021, under minor revision. (Q1, IF=4.7)

Sayyid Shahab Nabavi, Sukhpal Singh Gill, **Minxian Xu**, Mohammad Masdari, Peter Garraghan, TRACTOR: Traffic-aware and Power-efficient Virtual Machine Placement in Edge-Cloud Data Centers Using Artificial Bee Colony Optimization, *International Journal of Communication Systems (IJCS)*, e4747, 2021.

Huaming Wu, Katinka Wolter, Pengfei Jiao, Yingjun Deng, Yubin Zhao, **Minxian Xu**, EEDTO: An Energy-Efficient Dynamic Task Offloading Algorithm for Blockchain-Enabled IoT-Edge-Cloud Orchestrated Computing, *IEEE Internet of Things Journal (IoT-J)*, Vol. 9, Issue 4, 2163-2176, 2021. (Q1, IF=9.9)

Juanjuan Zhao, Jiexia Ye, **Minxian Xu***, Chengzhong Xu, Practical Model with Strong Interpretability and Predictability: An Explanatory Model for Individuals' Destination Prediction Considering Personal and Crowd Travel Behavior, *Concurrency and Computation: Practice and Experience (CCPE)*, e6151, 2020. (CCF C)

Minxian Xu, Adel Nadjaran Toosi, Rajkumar Buyya, A Self-adaptive Approach for Managing Applications and Harnessing Renewable Energy for Sustainable Cloud Computing, *IEEE Transactions on Sustainable Computing (T-SUSC)*, 2020. (CiteScore=11.5)

Huaming Wu, Ziru Zhang, Chang Guan, Katinka Wolter, **Minxian Xu**, Collaborate Edge and Cloud Computing with Distributed Deep Learning for Smart City Internet of Things, *IEEE Internet of Things Journal (IoT-J)*, Vol. 7 Issue 9, pp.8099-8110, 2020. (Q1, IF=9.9)

Minxian Xu, Rajkumar Buyya, Managing Renewable Energy and Carbon Footprint in Multi-cloud Computing Environments, *Journal of Parallel and Distributed Computing (JPDC)*, Vol. 135, pp. 191-202, 2020. (CCF B)

Sukhpal Singh Gill, Shreshth Tuli, **Minxian Xu** and et al., Transformative Effects of IoT, Blockchain and Artificial Intelligence on Cloud Computing: Evolution, Vision, Trends and Open Challenges, *Internet of Things*, Vol. 8, Dec 2019.

Cited over 100 times.

Minxian Xu, Rajkumar Buyya, BrownoutCon: A software System based on Brownout and Containers for Energy-Efficient Cloud Computing, *Journal of Systems and Software (JSS)*, Vol.155, pp. 91-103, September 2019. (CCF B)

Minxian Xu, Rajkumar Buyya, Brownout Approach for Adaptive Management of Resources and Applications in Cloud Computing System: A Taxonomy and Future Directions, *ACM Computing Surveys (CSUR)*, Vol.51,

Issue 4, pp. 1-27, Jan 2019. (Q1, IF=7.99)

Minxian Xu, Adel Nadjaran Toosi, Rajkumar Buyya, iBrownout: An Integrated Approach for Managing Energy and Brownout in Container-based Clouds, *IEEE Transactions on Sustainable Computing (T-SUSC)*, Vol. 4, Issue 1, pp. 53-66, Jan-Mar 2019. (CiteScore=11.5)

Minxian Xu, Wenhong Tian, Rajkumar Buyya, A Survey on Load Balancing Algorithms for Virtual Machines Placement in Cloud Computing, *Concurrency and Computation: Practice and Experience (CCPE)*, Vol 29, Issue 12, June 2017. (CCF C)

Cited over 150 times

Minxian Xu, Amir Vahid Dastjerdi, Rajkumar Buyya, Energy Efficient Scheduling of Cloud Application Components with Brownout, *IEEE Transactions on Sustainable Computing (T-SUSC)*, Vol. 1, Issue 2, pp.40-53, Dec 2016. (CiteScore: 11.5)

Wenhong Tian, **Minxian Xu**, et al., Open-Source Simulators for Cloud Computing: Comparative Study and Challenging Issues, *Simulation Modeling Practice and Theory (SMPT)*, Vol. 58, pp. 239-254, May 2015.

Wenhong Tian, Yong Zhao, **Minxian Xu**, et al., A Toolkit for Modeling and Simulation of Real-time Virtual Machine Allocation in a Cloud Data Center, *IEEE Transactions on Automation and Science Engineering (T-ASE)*, Vol. 12, No.1, pp. 153-161, Jan 2015. (Q1, CCF B, IF=4.93)

Minxian Xu, Wenhong Tian, An Online Load Balancing Algorithm for Cloud Data Centers Considering Real-time Virtual Machine Allocation with Fixed Process Intervals, *Journal of Information and Computational Science*, Vol. 11, Issue 3, pp. 989-1001, Feb 2014.

Wenhong Tian, Yong Zhao, Yuanliang Zhong, **Minxian Xu**, Chen Jing, Dynamic and Integrated Load-balancing Scheduling Algorithm for Cloud Data Center, *China Communications*, vol. 6, pp. 117-126, Oct 2011.

Cited over 130 times.

Minxian Xu, Jianglin Huang, Chen Xin, Wenhong Tian, The Cultivation of the Cultivation of International Innovative Talents: Analysis from Students' View, *Computer Education*, Vol. 10, pp. 4-10, 2010.

CONFERENCES

Lingxiao Xu, **Minxian Xu***, Richard Semmes, Hui Li, Hong Mu, Shuangquan Gui, Wenhong Tian*, Kui Wu, Rajkumar Buyya, A Reinforcement Learning based Approach to Identify Resource Bottlenecks for Multiple Services Interactions in Cloud Computing Environments, *The 16th International Conference on Collaborative Computing (CollaborateCom 2020)*, pp. 58-74, October 16-18, Shanghai, China, 2020. (CCF C)

Qiheng Zhou, **Minxian Xu***, Sukhpal Singh Gill, Chengxi Gao, Wenhong Tian, Chengzhong Xu and Rajkumar Buyya, Energy Efficient Algorithms based on VM Consolidation for Cloud Computing: Comparisons and Evaluations, *Proceedings of the 20th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid 2020)*, pp. 489-498, May 11-14, Melbourne, Victoria, Australia, 2020. (CCF C, Acceptance Rate=27%)

Minxian Xu, Adel N. Toosi, Behrooz Bahrani, Reza Razzaghi and Martin Singh, Optimized Renewable Energy Use in Green Cloud Data Centers, *In the Proceedings of International Conference on Service Oriented Computing (ICSOC 2019)*, pp. 314-330, Oct 2019. (CCF B, Acceptance Rate=15%)

Minxian Xu, Rajkumar Buyya, Energy Efficient Scheduling of Application Components via Brownout and Approximate Markov Decision Process, *In the Proceedings of International Conference on Service Oriented Computing (ICSOC 2017)*, pp.206-220, Nov 2017. (CCF B, Acceptance Rate=15%)

Minxian Xu, Wenhong Tian, Yu Chen, et al., FlexCloud: A Flexible and Extendible Simulator for Performance Evaluation of Virtual Machine Allocation, *IEEE International Conference on Smart City/ SocialCom/ SustainCom (CloudCom-Asia)*, pp. 649-655, Dec 2015.

Wenhong Tian, **Minxian Xu**, Yu Chen, Yong Zhao, Prepartition: A New Paradigm for Load Balance of Virtual Machine Reservations in Cloud Data Centers, *IEEE International Conference on Communications (ICC)*, pp. 4017-4022, June 2014. (CCF C)

Xianrong Liu, Wenhong Tian, **Minxian Xu**, Qin Xiong, A Cost-Efficient Scheduling Algorithm for Traffic Grooming, *Frontiers in Algorithmics and Algorithmic Aspects in Information and Management (FAW-AAIM)*, pp. 241-249, Dalian, China, June 26-28 2013.

Wenhong Tian, Jun Cao, Xinyang Wang, **Minxian Xu**, An Efficient Method for Maximizing Total Weights in Virtual Machines Allocation, *International Conference on Cloud Computing and Big Data (CLOUDCOM-ASIA)*, pp. 470-473, Dec 2013.

Minxian Xu, Wenhong Tian, An Online-Load Balancing Scheduling Algorithm for Cloud Data Centers Considering Real-Time Multi-Dimensional Resource, *IEEE International Conference on Cloud Computing and Intelligence Systems (CCIS)*, pp. 264-268, Oct 2012.

BOOK CHAPTERS **Minxian Xu**, Chengxi Gao, Shashikant Ilager, Huaming Wu, Chengzhong Xu, and Rajkumar Buyya, Green-aware Mobile Edge Computing for IoT: Challenges, Solutions and Future Directions, *Mobile Edge Computing (MEC)*, A. Mukherjee, D. De, S. K. Ghosh, and R. Buyya (eds), Springer, USA (in press), 2020.

Minxian Xu, Oline Load Balancing Scheduling (Chapter 5), pp. 120-138, in book: *Data Center Resource Optimization Scheduling*, Wenhong Tian and Yong Zhao (in Chinese).

PATENTS **Minxian Xu**, Cundao Yu, Kejiang Ye, Chengzhong Xu. 基于负载迁移的多云数据中心减碳排方法[发明], 2021.

Minxian Xu, Qiheng Zhou, Juanjuan Zhao, Kejiang Ye, Chengzhong Xu. 一种基于微服务管理与可再生能源利用的云计算资源调度方法[发明], 2021.

Minxian Xu, Chenghao Song, Chengxi Gao, Kejiang Ye, Chengzhong Xu. 云服务器集群负载调度方法、系统、终端以及存储介质[PCT/发明], PCT/CN2021/104298, 2021.

Minxian Xu, Zhiheng Zhong, Kejiang Ye, Chengzhong Xu. 一种异构任务协同调度方法、系统、终端以及存储介质[发明], CN202110666889.7, 2021.

Zhiheng Zhong, **Minxian Xu**, Kejiang Ye, Chengzhong Xu. 一种云容器资源调度方法、系统、终端以及存储介质[发明], CN202110668077.6, 2021.

Minxian Xu, Chenghao Song, Tianhui Meng, Kejiang Ye, Chengzhong Xu. 一种云服务器集群负载预测方法、系统、终端以及存储介质[发明], CN202110523933.9, 2021.

Minxian Xu, Qiheng Zhou, Chengxi Gao, Kejiang Ye, Chengzhong Xu, Jinxia Zhang. 移动边缘计算的服务调度方法、系统、终端以及存储介质[发明], CN202011418858.1, 2020.

Minxian Xu, Chenghao Song, Kejiang Ye, Chengzhong Xu. 一种基于容器管制的云数据中心节能方法及系统[PCT/发明], PCT/CN2020/139676, 2020.

Minxian Xu, Chenghao Song, Chengzhong Xu. 一种负载控制方法、装置、计算机设备及存储介质[PCT/发明], PCT/CN2020/129285, 2020.

Chengxi Gao, Shuhui Chu, Chengzhong Xu, Tianhui Meng, **Minxian Xu**, Jinxia Zhang. 数据中心网络的阻塞控制与调度融合方法及终端设备[发明], CN201911306009.4, 2019.

Wenhong Tian, Guozhong Li, **Minxian Xu**. 一种最大化虚拟机利润的调度方法与装置[发明], CN2015107407812, 2015.

Wenhong Tian, Yaqiu Jiang, **Minxian Xu**. 一种Hadoop集群的在线最小化总完工时间的调度方法和装置[发明], CN2014106357686, 2014.

Wenhong Tian, **Minxian Xu**. 一种基于虚拟机预分割的负载均衡方法和装置[发明], CN2014101886363, 2014.