Dr. Chengxi GAO

Personal Data

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| Status: |  | Assistant Professor/Postdoc |
| Affiliation: |  | *Center for Cloud Computing*  *Institute of Advanced Computing and Digital Engineering*  *Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences* |
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Working Experience

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| 09/2018– Present: | Assistant Professor/Postdoc *Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences, China*  Research Topic: Data center networking, distributed machine learning system |
| 09/2017–08/2018: | Research Associate *City University of Hong Kong, Hong Kong*  Research Topic: Network protocols for data center networks  Advisor: Dr. Henry Xu |

Education

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| 08/2014–08/2017: | Doctor of Philosophy in Computer Science *City University of Hong Kong*, *Hong Kong*  Research Topic: Scheduling and congestion control for data center networks  Advisor: Dr. Victor Lee |
| 08/2012–07/2014: | Master - Computer Application Technology *Northeastern University, China*  Research Topic: Resource Allocation in Cloud Computing  Advisor: Prof. Xingwei Wang |
| 09/2008–06/2012: | Bachelor - Computer Science *Northeastern University, China* |

Research Interests

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|  | Scheduling, Congestion Control, Data Center Networking  Serverless Computing  Distributed Machine Learning Systems |

Publication

Note: Underlined are the students working with me. “\*” indicates Corresponding author.

Journal Articles

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| 8. |  | Libin Liu, **Chengxi Gao**, Peng Wang, Hongming Huang, Hong Xu. Bottleneck-Aware Coflow Scheduling Without Prior Knowledge.  *In submission to IEEE Transactions on Parallel and Distributed Systems (IEEE TPDS).* |
| 7. |  | 曲大鹏,张建坤,吕国鑫,**高程希**.一种命名数据网络中的拥塞控制机制,投稿至《计算机学报》. |
| 6. |  | **Chengxi Gao**, Shuhui Chu, Hong Xu, Minxian Xu, Chengzhong Xu. Flash: Joint Flow Scheduling and Congestion Control in Data Center Networks. *Under major revision with* *IEEE Transactions on Cloud Computing (IEEE TCC).* |
| 5. |  | Shuhui Chu, Zhiyi Fang, Shinan Song, Zhanyang Zhang, **Chengxi Gao\***, Chengzhong Xu. Efficient Multi-Channel Computation Offloading for Mobile Edge Computing: A Game-Theoretic Approach. *IEEE Transactions on Cloud Computing (IEEE TCC), accepted, 2020.* |
| 4. |  | **Chengxi Gao**, Victor C.S. Lee, Keqin Li. D-SRTF: Distributed Shortest Remaining Time First Scheduling for Data Center Networks. *IEEE Transactions on Cloud Computing (IEEE TCC), accepted, 2018.* |
| 3. |  | **Chengxi Gao**, Victor C.S. Lee, Keqin Li. DemePro: DEcouple packet Marking from Enqueuing for multiple services with PROactive congestion control. *IEEE Transactions on Cloud Computing (IEEE TCC), accepted, 2017.* |
| 2. |  | Xingwei Wang, Xueyi Wang, Hao Che, Keqin Li, Min Huang, **Chengxi Gao**.  An Intelligent Economic Approach for Dynamic Resource Allocation in Cloud Services. *IEEE Transactions on Cloud Computing (IEEE TCC)*, vol. 3, no. 3, pp. 275-289, 2015. |
| 1. |  | 孙佳佳,王兴伟,**高程希**,黄敏. 云环境下基于神经网络和群搜索优化的资源分配机制, 软件学报, 2014,25(8):1858−1873. |

Conference Proceedings / Workshops / Posters

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| 11. |  | Shuhui Chu, Chengxi Gao\*, Minxian Xu, Chengzhong Xu. Efficient Multi-User Multi-Task Computation Offloading Game for Mobile Edge Computing. *In submission to IEEE INFOCOM 2021.* |
| 10. |  | Libin Liu, Hong Xu, Chengxi Gao, Peng Wang. Bottleneck-Aware Coflow Scheduling Without Prior Knowledge. *IEEE INFOCOM 2020 workshop-ICCN.* |
| 9. |  | 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*. IEEE/ACM CCGrid 2020*. |
| 8. |  | Chengxi Gao, Victor C.S. Lee. DEME: DEcouple packet Marking from Enqueuing for multiple services in data center networks*. IEEE ICNP 2016.* |
| 7. |  | **Chengxi Gao**, Victor C.S. Lee. Energy Efficient Mobile Computation Offloading through Workload Migration. *SC2 2015*. |
| 6. |  | Dapeng Qu, Shuwen Liu, Di Zhang, Jun Wang, **Chengxi Gao**. Teaching-Learning Based Optimization Algorithm Based on Course by Course Improvement. *IEEE CIS 2015*. |
| 5. |  | Lijing Wang, Xingwei Wang, **Chengxi Gao**, Min Huang. A Novel Resource Management Scheme for Cloud Computing.  *IEEE ICSESS 2014*. |
| 4. |  | **Chengxi Gao**, Xingwei Wang, Min Huang. A Cloud Resource Allocation Mechanism Based on Mean-variance Optimization and Double Multi-Attribution Auction. *IFIP NPC 2013*. |
| 3. |  | Jiajia Sun, Xingwei Wang, Min Huang, **Chengxi Gao**. A Cloud Resource Allocation Scheme Based on Microeconomics and Wind Driven Optimization. *ChinaGrid 2013*. |
| 2. |  | Bo Shang, Chengdong Wu, Tingting Meng, **Chengxi Gao**, Yunzhou Zhang. A Data/Image Transmission Device Based on TCP/IP Protocol.  *WiCOM 2012.* |
| 1. |  | Tingting Meng, Wu, Chengdong, Bo Shang, Chengxi Gao, Yunzhou Zhang. Design of Point to Multi-Point Wireless Communication System Based on ZigBee.  *WiCOM 2011*. |

Book Chapter

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| 1. |  | Minxian Xu, Chengxi Gao, Shashikant Ilager, Huaming Wu, Chengzhong Xu, Rajkumar Buyya. Green-aware Mobile Edge Computing for IoT: Challenges, Solutions and Future Directions. *Mobile Edge Computing (MEC), Springer.* |

Projects

Member：

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| 2. |  | 面向城市公共服务的高效融合与动态认知技术和平台.*国家重点研发计划,在研*. |
| 1. |  | 面向云数据中心智能管控的软件定义方法与关键技术.*广东省重点领域研发计划“芯片、软件与计算” （软件与计算类）重大专项项目, 在研*. |

Patents

受理：

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| 5. |  | 移动边缘计算中基于概率方法的服务调度方法 [发明]徐敏贤,周启恒,高程希,叶可江,须成忠 |
| 4. |  | 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]高程希,褚淑惠,须成忠,孟天晖,徐敏贤,张锦霞 |
| 3. |  | 计算卸载方法、装置及计算机可读存储介质 [发明]高程希,褚淑惠,须成忠,栗力 |
| 2. |  | 移动应用的能耗异常定位方法及系统 [发明]栗力,须成忠,高程希,孟天晖 |
| 1. |  | 一种联盟链的性能分析方法、系统及终端设备 [发明]孟天晖,叶可江,须成忠,高程希,栗力,王洋 |

已授权：

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| 1. |  | 一种基于TCP/IP协议的数据/图像传输装置 [发明]吴成东,商博,张云洲,高程希,孟婷婷 |

GroupCurrent Students:

* Shuhui Chu (Visiting student from The University of Macau), 2019.6-Now

Honors and Awards

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|  | Best Service Award for IEEE HPBD&IS 2020  Overseas High-Caliber Personnel Award (Level C) in Shenzhen  High-Level Talent in Nanshan District of Shenzhen (Level C)  **Outstanding Teaching Award for Teaching Assistants 2017/18 (CityU)**  CityU Conference Grant (2015.10)  Postgraduate Studentship of CityU (2014.9-2017.8)  National Scholarship for Graduate Students (2013)  First Class Scholarship of Northeastern University, three times (twice in 2012, once in 2013)  Excellent Student of Northeastern University, three times (2009,2010,2013)  Excellent Graduate of Northeastern University (2012)  Neusoft Scholarship (2010) |

Teaching Experiences

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| --- | --- | --- |
| Spring 2017: |  | Teaching Assistant for CS5296 (Cloud Computing: Theory and Practice), CityU HK  (Receive Outstanding Teaching Award for Teaching Assistants 2017/18) |
| Autumn 2016: |  | Teaching Assistant for CS2311 (Computer Programming), CityU HK |
| Spring 2016: |  | Teaching Assistant for CS5296 (Cloud Computing: Theory and Practice), CityU HK |
| Autumn 2015: |  | Teaching Assistant for CS2311 (Computer Programming), CityU HK |
| Spring 2015: |  | Teaching Assistant for CS1102 (Introduction to Computer Studies), CityU HK |
| Autumn 2014: |  | Teaching Assistant for CS1102 (Introduction to Computer Studies), CityU HK |

Journal Reviewers for

* ACM/IEEE Transactions on Networking
* Journal of Parallel and Distributed Computing
* Journal of Computer and System Sciences
* Journal of Cloud Computing

Conference Service for

TPC:

* 2019: IEEE IUCC

Reviewers:

* 2020: IEEE HPBD&IS (Receive Best Service Award)
* 2018: ACM SIGCOMM NetAI, ACM e-Energy, USENIX HotCloud, IEEE ICDCS, IEEE IWQoS
* 2017: IEEE CloudCom

Professional Membership:

* Member, ACM, IEEE, IEEE ComSoc, CCF