

# LUOYAO HAO

(001)347-703-6450 ◊ lyhao@cs.columbia.edu ◊ Homepage  
CEPSR 7LW2, Columbia University, New York, 10027

## EDUCATION

---

### Columbia University

*September 2018 - Present*

- Ph.D. Student in Computer Science
- M.S. in Computer Science, degree conferred in May 2019
- Advisor: [Prof. Henning Schulzrinne](#)
- Member of Internet Real-Time Laboratory (IRT)
- Research Field: Internet-of-Things (IoT) and Edge Computing

### Shanghai Jiao Tong University (SJTU)

*September 2014 - June 2018*

- B.S. in Computer Science
- Member of Shanghai Key Laboratory of Scalable Computing and Systems
- Member of Advanced Network Laboratory
- Member of Sustainable Architectures and Infrastructure Laboratory

## PUBLICATIONS

---

1. Xiaofeng Gao, Ailun Song, **Luoyao Hao**, Junni Zou, Guihai Chen, Shaojie Tang, “Towards Efficient Multi-Channel Data Broadcast for Multimedia Streams”, IEEE Transactions on Parallel and Distributed Systems (**TPDS**), Volume 30, Issue 10, pp.2370-2383, October 2019.
2. Xiaofeng Hou, **Luoyao Hao**, Chao Li, Quan Chen, Wenli Zheng, Minyi Guo, “Power Grab in Aggressively Provisioned Data Centers: What is the Risk and What Can Be Done About It”, The 36th IEEE International Conference on Computer Design (**ICCD**), Orlando, Florida, USA, October 7th-10th, 2018. (**Best Paper Award**)
3. **China Patent**: Xiaofeng Gao, **Luoyao Hao**, Chengming Jin, “A Scheme for Device-to-Device Network Organization Based on Scalable Video Streaming”, CN201711140736.9, Date of Grant: February 21st, 2020.
4. **Luoyao Hao**, Chengming Jin, Xiaofeng Gao, Linghe Kong, Fan Wu, Guihai Chen, “QoE-Aware Optimization for SVC-Based Adaptive Streaming in D2D Communications”, The 36th IEEE International Performance Computing and Communications Conference (**IPCCC**), San Diego, California, USA, December 10th-12th, 2017.
5. **Luoyao Hao**, Chengming Jin, Xiaofeng Gao, Fan Wu, Guihai Chen, “Towards Cost-Effective and Budget-Balanced Task Allocation in Crowdsourcing Systems”, The 36th IEEE International Performance Computing and Communications Conference (**IPCCC**), San Diego, California, USA, December 10th-12th, 2017.

## RESEARCH EXPERIENCE

---

### Professional Affiliation

- Student Member, Association for Computing Machinery (ACM)
- Student Member, Institute of Electrical and Electronics Engineers (IEEE)

### Professional Activities

- TPC Member, ICCAIS *2021*
- Reviewer, IJAI *2020, 2021*

- Reviewer, IJCDS 2020
- TPC Member, CITEI 2020
- Reviewer, BDAW 2020
- Reviewer, BEEI 2020
- Reviewer, AIIPCC 2019
- Editorial Board Member, SCIREA Journal of Computer 2019
- Reviewer, KSII Transactions on Internet and Information Systems (TIIS) 2018
- External Reviewer, IEEE ISJ 2017, JOCO 2017, JCO 2017

### **Internet Real-Time Lab (IRT)**

*August 2018 - Present*

*Graduate Research Assistant*

*Advisor: [Prof. Henning Schulzrinne](#)*

- Explore the integration of Internet of Things (IoT) and edge computing.
- Investigate the large scale IoT naming, directory, and authorization issues. Lead two groups of students to do semester-long projects.

### **Sustainable Architectures and Infrastructure Laboratory**

*December 2017 - June 2018*

*Research Assistant*

*Advisor: [Prof. Chao Li](#)*

- Investigated power grab in aggressively provisioned data centers.
- Implemented a light-weight system for power allocation in data centers, which is a prototype including a mini server rack with four load servers and one control server.

### **Advanced Network Laboratory in SJTU**

*October 2016 - June 2018*

*Research Assistant*

*Advisor: [Prof. Xiaofeng Gao](#)*

- Researched Scalable Video Codec (SVC), adaptive streaming, and Device-to-Device (D2D) networks.
- Proposed a fast multimedia transmission scheme for the organization of D2D communications.
- Working on Network Function Virtualization (NFV) deployment in data center recently.
- Designed approximation algorithms to deploy limited number of relays to maximize users' satisfaction.
- Participated in **National** Undergraduate Training Program for Innovation and Entrepreneurship, top two programs in Dept. of Computer Science and Engineering.

### **Shanghai Key Laboratory of Scalable Computing and Systems**

*June 2017 - August 2017*

*Research Intern*

*Advisor: [Prof. Guihai Chen](#) and [Prof. Fan Wu](#)*

- Researched issues of cost-effective and budget-balanced task allocation problem in crowdsourcing systems and proved its NP-Completeness.
- Proposed two heuristic algorithms based on greedy strategy and local search technique respectively.

## **TEACHING EXPERIENCE**

---

### **Teaching Assistant**

- COMS 4419 (Graduate Level): Internet Technology, Economics, and Policy *Spring 2019*
- CSEE 4119 (Graduate Level): Computer Networks *Spring 2020*

## **SCHOLARSHIPS AND AWARDS**

---

- NSF Student Travel Grant, IFIP Networking Conference 2020
- Best Paper Award, IEEE International Conference on Computer Design (ICCD) 2018

Shanghai Outstanding Graduates

Academic Excellence Scholarship (Type-B) of SJTU

Mathematical Contest in Modeling(MCM/ICM), Honorable Winner

Academic Excellence Scholarship (Type-C) of SJTU

Merit Student in Shanghai Jiao Tong University

Advanced Individual in Winter/Summer Social Practice

SMC Scholarship, SMC (China) Co.,Ltd.

*May 2018*

*October 2015, October 2017*

*February 2017*

*October 2016*

*October 2016*

*April 2015, December 2015*

*March 2015*