

# JIA ZHANG

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PRESENT APPOINTMENT      Research Associate Professor      *Email:* joycezhangjia@gmail.com  
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Haidian, Beijing, China      *Phone:* +86-13121958631

RESEARCH INTERESTS      Low-latency Network, Routing Security, AI-driven System

EDUCATION      **Tsinghua University** | Beijing, China  
*Department of Computer Science and Technology*  
◇ **Ph.D.**, Computer Science, August 2023  
    – *Dissertations:* “Transport Layer Optimization for Mobile Web Services”  
    – *Advisor:* Prof. Mingwei Xu  
    – *Thesis Committee:* Prof. Jiahai Yang (chair), Prof. Ying Liu,  
    Prof. Wendong Wang (Beijing University of Posts and Telecommunications),  
    Prof. Shuhao Li (Zhongguancun Laboratory)

**Tsinghua University** | Beijing, China  
*Department of Electronic Engineering*  
◇ **B.Eng.**, Electronic Engineering, July 2018  
    – *Second Bachelor’s Degree:* Business Administration from School of Business and Management  
    – *Dissertations:* “Implementation and Analysis of Congestion Control for the New Transport Protocol MPQUIC”  
    – *Advisor:* Prof. Mingwei Xu

PROFESSIONAL EXPERIENCE      **Zhongguancun Laboratory** | Beijing, China  
Research Associate Professor      Feb 2026 – Present  
Research Assistant Professor      Sep 2023 – Feb 2026  
◇ Lead independent and collaborative research on intelligent systems and network security  
◇ Supervise teams and mentor students on research methodology and academic development  
◇ Engage in cross-institution collaborations with industry and academia to drive research.

**Tsinghua University** | Beijing, China  
*Department of Computer Science and Technology*  
Research Assistant (Advisor: Prof. Mingwei Xu)      Sep 2018 – Aug 2023

**Meituan** | Beijing, China  
*Algorithm Strategy*  
Research Intern (Mentor: Mr. Xiaotian Li)      Sep 2021 – Jun 2023

**Baidu** | Beijing, China  
*BFE Team*  
Research Intern (Mentor: Mr. Sijie Yang)      Oct 2019 – Jun 2021

**University of Surrey** | Surrey, UK  
*5G/6G Innovation Centre*  
Research Assistant (Advisor: Prof. Ning Wang)      July – Sep, 2019

All publications are sorted in a reverse chronological order, where the # indicates that I am the corresponding author.

**Refereed Papers in Conference Proceedings**

- [C9] Yixuan Zhang, Shaorui Ren, Enhuan Dong, Haiping Wang, **Jia Zhang**, Zili Meng, Mingwei Xu, Shu Shi, Hebin Yu, Zhichen Xue, Yajie Peng, Xiaofei Pang, Jianping Wu, “Hermit: A Flow-Collaborative Transport Scheme for Multi-Source Video On-Demand Streaming,” accepted in *IEEE International Conference on Communications (ICC’2026)*.
- [C8] Yixuan Zhang, Zili Meng, Enhuan Dong, Yan Zhang, **Jia Zhang**, Mingwei Xu, Jianping Wu, “Real-Time Video Gets a Fast Lane via Smart Queue Flushing at the Wireless Edge,” accepted in *IEEE International Conference on Computer Communications (INFOCOM’2026)*.
- [C7] Shaorui Ren, **Jia Zhang**<sup>#</sup>, Enhuan Dong, Mingwei Xu, Yixuan Zhang, Jiahao Cao, Jianping Wu, “Undermining Delay-based QUIC Congestion Control: A Receiver-driven Attack via Crafted Host Delays,” published in *IEEE International Conference on Network Protocol (ICNP’2025)*.
- [C6] Andong Chen, Yangyang Wang, **Jia Zhang**<sup>#</sup>, Mingwei Xu, “Right the Ship: Assessing the Legitimacy of Invalid Routes in RPKI,” published in *ACM Conference on Computer and Communications Security (CCS’2025)*.
- [C5] Peng Qian, Ning Wang, Foh Chuan Heng, **Jia Zhang**, Carl Udora, Rahim Tafazolli, “Enabling eBPF-Based Packet Duplication for Robust Volumetric Video Streaming,” published in *IEEE International Symposium on Computers and Communications (ISCC’2024)*.
- [C4] **Jia Zhang**, Haixuan Tong, Enhuan Dong, Xin Qian, Mingwei Xu, Xiaotian Li, Zili Meng, “Cold Start or Hot Start? Robust Slow Start in Congestion Control with A Priori Knowledge for Mobile Web Services,” published in *The Web Conference (WWW’2024)*.
- [C3] **Jia Zhang**, Yixuan Zhang, Enhuan Dong, Yan Zhang, Shaorui Ren, Zili Meng, Mingwei Xu, Xiaotian Li, Zongzhi Hou, Zhicheng Yang, Xiaoming Fu, “Bridging the Gap between QoE and QoS in Congestion Control: A Large-scale Mobile Web Service Perspective,” published in *USENIX Annual Technical Conference (ATC’2023)*.
- [C2] **Jia Zhang**, Enhuan Dong, Zili Meng, Yuan Yang, Mingwei Xu, Sijie Yang, Miao Zhang, Yang Yue, “WiseTrans: Adaptive Transport Protocol Selection for Mobile Web Service,” published in *The Web Conference (WWW’2021)*.
- [C1] Fangzhao Wu, **Jia Zhang**, Zhigang Yuan, Sixing Wu, Yongfeng Huang, and Jun Yan, “Sentence-level sentiment classification with weak supervision,” published in *ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR’2017)*.

**Refereed Journal Articles**

- [J2] **Jia Zhang**, Shaorui Ren, Enhuan Dong, Zili Meng, Yuan Yang, Mingwei Xu, Sijie Yang, Miao Zhang, Yang Yue, “Reducing Mobile Web Latency Through Adaptively Selecting Transport Protocol,” *IEEE/ACM Transactions on Networking*, vol. 31, no. 5, pp. 2162-2177, Oct. 2023.
- [J1] Zili Meng, Yaning Guo, Yixin Shen, Jing Chen, Chao Zhou, Minhu Wang, **Jia Zhang**, Mingwei Xu, Chen Sun, Hongxin Hu, “Practically Deploying Heavyweight Adaptive Bitrate Algorithms With Teacher-Student Learning,” *IEEE/ACM Transactions on Networking*, vol. 29, no. 2, pp. 723-736, Apr. 2021.

- [P2] Mingwei Xu, **Jia Zhang**, Enhuan Dong, Zili Meng, Yuan Yang. Adaptive Transport Protocol Selection Method and Device for Mobile Web Service. CN112583818, Chinese Patent. Granted: Dec 24, 2021.

PATENT (CONTINUED)	[P1] Yangyang Wang, Andong Chen, <b>Jia Zhang</b> , Jiahao Cao, Mingwei Xu. Method and Device for BGP Route Origin Authentication Diagnosis Based on Feature Analysis. CN 118784362 A, Chinese Patent. Applied: Oct 15, 2024.	
COMPETITIVE RESEARCH GRANTS	[G3] <b>PI</b> . Research on Decentralized Ultra-reliable and Faithful RPKI Routing Validation Architecture. NSFC Young Scientists Fund. No. 62502471	CNY 300,000 Jan 2026 – Dec 2028
	[G2] <b>Co-I</b> . Research on Key Technologies for IPv6 Network Security Risk Detection and Proactive Defense MOST Key R&D Program of China. No. 2025YFE0201000	Total: CNY 3,000,000 Nov 2025 – Oct 2027
	[G1] <b>Co-I</b> . Research and Validation on XXX Technology and its Application for National Internet Infrastructure. National S&T Major Project on Cyberspace Security. No. 2025ZD1500100	Total: CNY 480,000,000 Dec 2025 – Nov 2028
STANDARDS CONTRIBUTIONS	[S6] <b>Jia Zhang</b> , Yangyang Wang, Maria Matejka, and Mingwei Xu, “ASPA-based AS_PATH Verification for BGP Export,” <i>Internet-Draft draft-zhang-sidrops-aspa-egress-04</i> , <i>Internet Engineering Task Force</i> , Jan 2026. <i>Work in Progress</i> .	
	[S5] <b>Jia Zhang</b> , Mingwei Xu, and Yangyang Wang, “Enhancing Route Origin Validation by Aggregating Validated ROA Payloads,” <i>Internet-Draft draft-zhang-sidrops-vrp-aggregation-04</i> , <i>Internet Engineering Task Force</i> , Feb 2026. <i>Work in Progress</i> .	
	[S4] <b>Jia Zhang</b> , Mingwei Xu, Nan Geng, Chongfeng Xie, and Yangyang Wang, “RPKI-based Validation with Prioritized Resource Data,” <i>Internet-Draft draft-zhang-sidrops-prioritized-route-validation-00</i> , <i>Internet Engineering Task Force</i> , Oct 2025. <i>Work in Progress</i> .	
	[S3] <b>Jia Zhang</b> , Shuhe Wang, Yangyang Wang, Mingwei Xu, Yu Fu, Wei Liang, Nan Geng, Jihua Zhou, Jing Gao, “Multi-source data provision system for RPKI route validation - general architecture,” <i>Communications Industry Standards of the People’s Republic of China</i> , Application No. H-202412190600. <i>Work in Progress</i> .	
	[S2] Yonghong Fu, Mingwei Xu, Yangyang Wang, <b>Jia Zhang</b> , and Yuanyuan Zhang, “Operational Monitoring of RPKI Repositories Health and Safety,” <i>Internet-Draft draft-fu-sidrops-rpki-repositories-monitoring-00</i> , <i>Internet Engineering Task Force</i> , March 2026. <i>Work in Progress</i> .	
	[S1] Shuhe Wang, Mingwei Xu, Yangyang Wang, and <b>Jia Zhang</b> , “Requirements for Monitoring RPKI-Related Processes on Routers Using BMP,” <i>Internet-Draft draft-wang-grow-bmp-rpki-mon-reqs-02</i> , <i>Internet Engineering Task Force</i> , Oct 2025. <i>Work in Progress</i> .	
HONORS AND AWARDS	◇ Distinguished Contribution Team of Zhongguancun Laboratory	2025
	◇ Zhongguancun Laboratory Major Landmark Achievement	2024
	◇ Outstanding Contribution Team of Zhongguancun Laboratory	2024
	◇ Outstanding Communist Youth League Member of Tsinghua University	2018
	◇ Zheng Geru Scholarship	2017
	◇ Hongqian Electronics Scholarship	2016
PROFESSIONAL SERVICES	<b>Conference Technical Program Committee Membership</b>	
	◇ ACM Workshop on Network and Operating Systems Support for Digital Audio and Video (NOSS-DAV). 2026.	
	◇ IEEE/ACM International Symposium on Quality of Service (IWQoS). 2025, 2024.	
	◇ International Conference on Big Data Computing and Communications (BIGCOM). 2025, 2026.	
	<b>Reviewer for Journal Manuscript Submissions</b>	
	◇ IEEE Transactions on Parallel and Distributed Systems (TPDS)	

PROFESSIONAL SERVICES (CONTINUED)	<ul style="list-style-type: none"> <li>◇ IEEE/ACM Transactions on Networking (ToN)</li> <li>◇ IEEE Network</li> </ul> <p><b>External Reviewer for Conference Manuscript Submissions</b> USENIX NSDI, ACM Multimedia, ACM CoNEXT, ACM HotNets, IEEE ICDCS</p> <p><b>Other Organizing Services</b></p> <ul style="list-style-type: none"> <li>◇ Student volunteer, ACM SIGCOMM 2019.</li> </ul>
TEACHING AND TUTORING ACTIVITIES	<p><b>Teaching Assistant</b></p> <ul style="list-style-type: none"> <li>◇ Computer Network Architecture, Tsinghua University <span style="float: right;">Fall, 2020</span></li> </ul> <p><b>Student Tutoring</b></p> <ul style="list-style-type: none"> <li>◇ Postgraduate Tutor, Zhongguancun Labortary <span style="float: right;">Fall, 2024 – Present</span></li> <li>◇ Undergraduate Tutor, Tsinghua University <span style="float: right;">Fall, 2018 – Fall, 2020</span></li> </ul>
MENTORSHIP	<p><b>Students at Zhongguancun Laboratory</b></p> <ul style="list-style-type: none"> <li>◇ Weihua Liu. Ph.D. student (2025 – ).</li> <li>◇ Jiayu Zheng. Ph.D. student (2025 – ).</li> <li>◇ Shaorui Ren. Ph.D. student (2023 – ).</li> </ul> <p><b>Students at Tsinghua University</b></p> <ul style="list-style-type: none"> <li>◇ Yixuan Zhang. Ph.D. student (2020 – ).</li> <li>◇ Andong Chen. M.Eng. student (2022 – 2025). Now at PLA research institutes.</li> <li>◇ Yan Zhang. Undergraduate student (2022 – 2024). Now M.Eng. student at Tsinghua University.</li> <li>◇ Haixuan Tong. Undergraduate student (2022 – 2024). Now Ph.D. student at Tsinghua University.</li> </ul>
INDUSTRIAL IMPACT	<ul style="list-style-type: none"> <li>◇ <b>CERNET, China Telecom, and China Unicom</b> uses our RPKI data supplyment system (CCS '25), for their route validation.</li> <li>◇ <b>Meituan</b> uses our congestion control selection mechanism, <i>Floo</i> (ATC '23), for mobile Web service (Dianping App).</li> <li>◇ <b>Baidu</b> uses our protocol selection mechanism between TCP and QUIC, <i>WiseTrans</i> (WWW '21)., for their video streaming service (Haokan Video).</li> </ul>
REFERENCES	<p><b>Prof. Mingwei Xu</b> Professor, <i>Dean of</i> Institute for Network Sciences and Cyberspace Tsinghua University xumw@tsinghua.edu.cn</p> <p><b>Prof. Ning Wang</b> Professor, School of Electrical, Electronic and Mechanical Engineering University of Bristol n.wang@bristol.ac.uk</p> <p><b>Dr. Nan Geng</b> Technical Leader, Data Communications Lab Huawei gengnan@huawei.com</p>