

JIA ZHANG



PRESENT
APPOINTMENT Research Assistant Professor *Email:* joycezhangjia@gmail.com
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RESEARCH
INTERESTS Low-latency Network, Routing Security, AI-driven Network

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 Assistant Professor Sep 2023 – Present

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

Tsinghua University | Beijing, China
 Department of Electronic Engineering
 Research Assistant (Advisor: Prof. Yongfeng Huang) Sep 2016 – May 2017

SCHOLARLY
PUBLICATIONS

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

Refereed Papers in Conference Proceedings

- [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 INFOCOM 2026*.
- [C7] Shaorui Ren, **Jia Zhang**[#], 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’25)*.
- [C6] Andong Chen, Yangyang Wang, **Jia Zhang**[#], 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 (IEEE 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 ’24)*.
- [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 ’23)*.
- [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 ’21)*.
- [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’17)*

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.

PATENT

- [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.
- [P1] Yangyang Wang, Andong Chen, **Jia Zhang**, 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

- [G1] **PI**. Research on Decentralized Ultra-reliable and Faithful RPKI Routing Validation Architecture. CNY 300,000
NSFC Young Scientists Fund (62502471) Jan 2026 – Dec 2028

STANDARDS CONTRIBUTIONS	[S5] Jia Zhang , Yangyang Wang, Maria Matejka, and Mingwei Xu, “ASPA-based AS_PATH Verification for BGP Export,” <i>Internet-Draft draft-zhang-sidrops-aspa-egress-03</i> , <i>Internet Engineering Task Force</i> , July 2025. <i>Work in Progress</i> .	
	[S4] Jia Zhang , Mingwei Xu, and Yangyang Wang, “Enhancing Route Origin Validation by Aggregating Validated ROA Payloads,” <i>Internet-Draft draft-zhang-sidrops-vrp-aggregation-03</i> , <i>Internet Engineering Task Force</i> , Aug 2025. <i>Work in Progress</i> .	
	[S3] Shuhe Wang, Mingwei Xu, Yangyang Wang, and Jia Zhang , “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> .	
	[S2] Jia Zhang , 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> .	
	[S1] Jia Zhang , 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> .	
HONORS AND AWARDS	◇ Excellent League Member of Tsinghua University	2018
	◇ Zheng Geru Scholarship	2017
	◇ Hongqian Electronics Scholarship	2016
PROFESSIONAL SERVICES	Conference Technical Program Committee Membership	
	◇ IEEE/ACM International Symposium on Quality of Service (IWQoS). 2025, 2024.	
	◇ International Conference on Big Data Computing and Communications (BIGCOM). 2025	
	Reviewer for Journal Manuscript Submissions	
	◇ IEEE Transactions on Parallel and Distributed Systems (TPDS)	
	◇ IEEE/ACM Transactions on Networking (ToN)	
	◇ IEEE Network	
	External Reviewer for Conference Manuscript Submissions	
	USENIX NSDI, ACM Multimedia, ACM CoNEXT, ACM HotNets, IEEE ICDCS	
	Other Organizing Services	
	◇ Student volunteer, ACM SIGCOMM 2019.	
TEACHING AND TUTORING ACTIVITIES	Teaching Assistant	
	◇ Computer Network Architecture, Tsinghua University	Fall, 2020
	Student Tutoring	
	◇ Postgraduate Tutor, Zhongguancun Labotaroty	Fall, 2024 – Present
	◇ Undergraduate Tutor, Tsinghua University	Fall, 2018 – Fall, 2020
MENTORSHIP	Students at Zhongguancun Laboratory	
	◇ Weihua Liu. Ph.D. student (2025 –).	
	◇ Jiayu Zheng. Ph.D. student (2025 –).	
	◇ Shaorui Ren. Ph.D. student (2023 –).	
	Students at Tsinghua University	
	◇ Yixuan Zhang. Ph.D. student (2020 –).	
	◇ Andong Chen. M.Eng. student (2022 – 2025). Now at PLA research institutes.	
	◇ Yan Zhang. Undergraduate student (2022 – 2024). Now M.Eng. student at Tsinghua University.	

MENTORSHIP (CONTINUED)	<ul style="list-style-type: none"> ◇ Haixuan Tong. Undergraduate student (2022 – 2024). Now Ph.D. student at Tsinghua University.
INDUSTRIAL IMPACT	<ul style="list-style-type: none"> ◇ CERNET, China Telecom, and China Unicom uses our RPKI data supplyment system (CCS '25), for their route validation. ◇ Meituan uses our congestion control selection mechanism, <i>Floo</i> (ATC '23), for mobile Web service (Dianping App). ◇ Baidu uses our protocol selection mechanism between TCP and QUIC, <i>WiseTrans</i> (WWW '21)., for their video streaming service (Haokan Video).
REFERENCES	<p>Prof. Mingwei Xu Professor, <i>Dean of</i> Institute for Network Sciences and Cyberspace Tsinghua University xumw@tsinghua.edu.cn</p> <p>Prof. Ning Wang Professor, School of Electrical, Electronic and Mechanical Engineering University of Bristol n.wang@bristol.ac.uk</p> <p>Dr. Nan Geng Technical Leader, Data Communications Lab Huawei gengnan@huawei.com</p>