

# JIA ZHANG



PRESENT APPOINTMENT Research Assistant Professor  
Zhongguancun Laboratory  
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RESEARCH INTERESTS Low-latency Network, Routing Security, AI-driven Network

EDUCATION	<b>Tsinghua University</b>   Beijing, China <i>Department of Computer Science and Technology</i> ◇ <b>Ph.D.</b> , Computer Science, August 2023 <ul style="list-style-type: none"><li>- <i>Dissertations:</i> “Transport Layer Optimization for Mobile Web Services”</li><li>- <i>Advisor:</i> Prof. Mingwei Xu</li><li>- <i>Thesis Committee:</i> Prof. Jiahai Yang (chair), Prof. Ying Liu, Prof. Wendong Wang (Beijing University of Posts and Telecommunications), Prof. Shuhao Li (Zhongguancun Laboratory)</li></ul>
	<b>Tsinghua University</b>   Beijing, China <i>Department of Electronic Engineering</i> ◇ <b>B.Eng.</b> , Electronic Engineering, July 2018 <ul style="list-style-type: none"><li>- <i>Second Bachelor's Degree:</i> Business Administration from School of Business and Management</li><li>- <i>Dissertations:</i> “Implementation and Analysis of Congestion Control for the New Transport Protocol MPQUIC”</li><li>- <i>Advisor:</i> Prof. Mingwei Xu</li></ul>
PROFESSIONAL EXPERIENCE	<b>Zhongguancun Laboratory</b>   Beijing, China Research Assistant Professor Sep 2023 – Present
	<b>Tsinghua University</b>   Beijing, China <i>Department of Computer Science and Technology</i> Research Assistant (Advisor: Prof. Mingwei Xu) Sep 2018 – Aug 2023
	<b>Meituan</b>   Beijing, China <i>Algorithm Strategy</i> Research Intern (Mentor: Mr. Xiaotian Li) Sep 2021 – Jun 2023
	<b>Baidu</b>   Beijing, China <i>BFE Team</i> Research Intern (Mentor: Mr. Sijie Yang) Oct 2019 – Jun 2021
	<b>University of Surrey</b>   Surrey, UK <i>5G/6G Innovation Centre</i> Research Assistant (Advisor: Prof. Ning Wang) July – Sep, 2019
	<b>Tsinghua University</b>   Beijing, China <i>Department of Electronic Engineering</i> 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," *Internet-Draft draft-zhang-sidrops-aspa-egress-03, Internet Engineering Task Force, July 2025. Work in Progress.*
- [S4] **Jia Zhang**, Mingwei Xu, and Yangyang Wang, "Enhancing Route Origin Validation by Aggregating Validated ROA Payloads," *Internet-Draft draft-zhang-sidrops-vrp-aggregation-03, Internet Engineering Task Force, Aug 2025. Work in Progress.*
- [S3] Shuhe Wang, Mingwei Xu, Yangyang Wang, and **Jia Zhang**, "Requirements for Monitoring RPKI-Related Processes on Routers Using BMP," *Internet-Draft draft-wang-grow-bmp-rpki-mon-reqs-02, Internet Engineering Task Force, Oct 2025. Work in Progress.*
- [S2] **Jia Zhang**, Mingwei Xu, Nan Geng, Chongfeng Xie, and Yangyang Wang, "RPKI-based Validation with Prioritized Resource Data," *Internet-Draft draft-zhang-sidrops-prioritized-route-validation-00, Internet Engineering Task Force, Otc 2025. Work in Progress.*
- [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," *Communications Industry Standards of the People's Republic of China, Application No. H-202412190600. Work in Progress.*

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)

◇ Haixuan Tong. Undergraduate student (2022 – 2024). Now Ph.D. student at Tsinghua University.

INDUSTRIAL  
IMPACT

◇ **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, *Floo* (*ATC '23*), for mobile Web service (Dianping App).

◇ **Baidu** uses our protocol selection mechanism between TCP and QUIC, *WiseTrans* (*WWW '21*), for their video streaming service (Haokan Video).

REFERENCES

**Prof. Mingwei Xu**

Professor, *Dean of Institute for Network Sciences and Cyberspace*  
Tsinghua University  
[xumw@tsinghua.edu.cn](mailto:xumw@tsinghua.edu.cn)

**Prof. Ning Wang**

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**Dr. Nan Geng**

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