

# Yihao Jia

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Ph.D. in Computer Networks, Computer Science

## PROFESSIONAL EXPERIENCE

<b>Huawei</b>	Sep 2019 - Present
Senior Researcher, Central Research Institute, 2012 Lab	Beijing
<ul style="list-style-type: none"><li>• <b>Researching</b> on techniques surrounding the Internet Protocol (IP) with concentration upon decentralized identifier, network privacy, zero-trust network, IPv6, ID/Locator split, internet of things, <i>etc.</i></li><li>• <b>Standardizing</b> related innovations at high-profile venues, <i>e.g.</i>, IETF, ITU-T, ETSI for international, and China Communications Standards Association (CCSA) for national.</li></ul>	

## EDUCATION

<b>Tsinghua University</b>	Sep 2014 - Jul 2019
Internet Architecture / Ph.D. -- Computer Science	Beijing, China
<b>Northwestern University</b>	Sep 2017 - Sep 2018
Computer Networks / Visiting Scholar -- Computer Science	Chicago, USA
<b>University of Electronic Science and Technology of China (UESTC)</b>	Sep 2010 - Jul 2014
Networking Science / Bachelor -- Information and Communication Engineering	Chengdu, China
<b>National Taiwan University of Science and Technology (NTUST)</b>	Sep 2012 - Feb 2013
Information Science / Exchange Student -- Information and Communication Engineering	Taipei, Taiwan

## RESEARCH EXPERIENCE

<b>Flexible Internet Protocol and Addressing</b>	Oct 2020 - Present
<ul style="list-style-type: none"><li>• Propose a flexible Internet addressing structure, and investigate the gaps for Internet Protocol (<b>IPv4/IPv6</b>)</li><li>• Standardizing the proposal in Internet Engineering Task Force (<b>IETF</b>) community with public discussion and engagement</li></ul>	
<b>Remote Attestation for Internet of Things Security</b>	Jan 2020 - Jul 2020
<ul style="list-style-type: none"><li>• Investigate the vulnerability of the Internet of Thing (<b>IoT</b>) and potential protections and assistance from the network</li><li>• Propose an enhanced remote healthiness attestation mechanism based on Device Identifier Composition Engine (<b>DICE</b>)</li></ul>	
<b>Inter-domain IP Source Address Validation</b>	Feb 2016 - May 2019
<ul style="list-style-type: none"><li>• Designed a collaborative IP source address validation mechanism in inter-domain area [<b>Linux</b>]</li><li>• Simulated the tremendous AS-level data in evaluating the defense efficiency of the Distributed Denial-of-Service (<b>DDoS</b>)</li></ul>	
<b>Network Anomalies Perception</b>	Jan 2018 - Oct 2018
<ul style="list-style-type: none"><li>• Analyzed CDN replica assignment behavior in reflecting network anomalies w.r.t Domain Name Service (<b>DNS</b>)</li><li>• Developed a "Network Anomalies Perception" system based on replica assignment behaviors [<b>Python</b>]</li></ul>	
<b>Adaptive Web Style Engine</b>	Sep 2017 - Mar 2018
<ul style="list-style-type: none"><li>• Designed a framework of "Adaptive Web Style Engine" -- dynamically web style optimization with Machine Learning</li><li>• Developed a <b>Chrome Extension</b> to constantly collect user preference [<b>JavaScript, HTML, CSS</b>]</li></ul>	
<b>Identity Embedded IPv6 Address Network</b>	Mar 2014 - Jun 2017
<ul style="list-style-type: none"><li>• Designed an IPv6 address generation algorithm with a scalable and verifiable user identity (<b>Identifier</b> and <b>Locator</b>)</li><li>• Developed an identification traceback system from IPv6 address under cross-domain scenario [<b>Java, SQL</b>]</li></ul>	

## SELECTED PUBLICATIONS

<b>pSAV: A Practical and Decentralized Inter-AS Source Address Validation Service Framework</b>	Jun 2021
International Symposium on Quality of Service - IWQoS'21	Tokyo, Japan
<b>Poster: Enhancing Remote Healthiness Attestation for Constrained IoT Devices</b>	Oct 2020
IEEE International Conference on Network Protocols - ICNP'20	Madrid, Spain
<b>Address Protection-as-a-Service An inter-AS Framework for IP Spoofing Resilience</b>	Dec 2019
IEEE Global Communications Conference - GLOBECOM'19	Hawaii, USA
<b>Perceiving Internet Anomalies via CDN Replica Shifts</b>	May 2019
International Conference on Computer Communications - INFOCOM'19	Paris, France
<b>Review of Internet Inter-Domain IP Source Address Validation Technology</b>	Feb 2018
Journal of Software (Journal in Chinese, EI Index)	
<b>Revisiting IP Spoofing Let the Protection Drive Source Address Validation</b>	Dec 2017
International Performance Computing and Communications Conference - IPCCC'17	San Diego, USA

## HONORS & AWARDS

National Fund - China Scholarship Council	2017
National Scholarship - Ministry of Education of the People Republic of China	2013

## ACCOMPLISHMENTS

- **Skillset:** Algorithms, Internet measuring, IPv6, DNS, DDoS mitigation
- **Platform:** LaTeX, Git, Docker, Wireshark, RIPE Atlas, Matplotlib
- **Courses:** Internet Routing Protocols, Algorithms and Complexity, Combinatorics, Graph Theory, etc