

# Yiming Qiu

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CONTACT INFORMATION	University of Michigan 4945 Bob and Betty Beyster Building Ann Arbor, MI 48109	Phone: +1 (281) 236-8076 yimingq@umich.edu <a href="https://yimingqiu.me/">https://yimingqiu.me/</a>
RESEARCH INTERESTS	I am broadly interested in systems, networking, and security, with a particular focus on the intersection of <b>low level systems</b> with <b>performance analysis</b> , <b>formal reasoning</b> , and <b>machine learning</b> .	
EDUCATION	<b>University of Michigan</b> Ph.D. Student, Computer Science Advisor: Ang Chen	Aug. 2023 - Sept. 2024 (expected)
	<b>Rice University</b> Ph.D. Student, Computer Science Advisor: Ang Chen	Jun. 2020 - Aug. 2023 (transferred) GPA: 3.92/4.00
	<b>Beijing University of Posts and Telecommunications</b> B.S., Telecommunication Engineering (top 3%)	Aug. 2015 - May 2019 GPA: 3.81/4.00
PUBLICATIONS	Unearthing Semantic Checks for Cloud Infrastructure-as-Code Programs <b>Yiming Qiu</b> , Patrick Tser Jern Kon, Ryan Beckett, Ang Chen <b>SOSP 2024</b>	
	Unleashing SmartNIC Packet Processing Performance in P4 Jiarong Xing, <b>Yiming Qiu</b> , Kuo-Feng Hsu, Songyuan Sui, Khalid Manaa, Omer Shabtai, Yonatan Piasetzky, Matty Kadosh <b>SIGCOMM 2023</b>	
	Synthesizing Runtime Programmable Switch Updates <b>Yiming Qiu</b> , Ryan Beckett, and Ang Chen <b>NSDI 2023</b>	
	Simplifying Cloud Management with Cloudless Computing <b>Yiming Qiu</b> , Patrick Tser Jern Kon, Jiarong Xing, Yibo Huang, Hongyi Liu, Xinyu Wang, Peng Huang, Mosharaf Chowdhury, Ang Chen <b>HotNets 2023</b>	
	Bedrock: Programmable Network Support for Secure RDMA Systems Jiarong Xing, Kuo-Feng Hsu, <b>Yiming Qiu</b> , Ziyang Yang, Hongyi Liu, and Ang Chen <b>USENIX Security 2022</b>	
	Automated SmartNIC Offloading Insights for Network Functions <b>Yiming Qiu</b> , Jiarong Xing, Kuo-Feng Hsu, Qiao Kang, Ming Liu, Srinivas Narayana, and Ang Chen <b>SOSP 2021</b>	
	A Vision for Runtime Programmable Networks Jiarong Xing, <b>Yiming Qiu</b> , Kuo-Feng Hsu, Hongyi Liu, Matty Kadosh, Alan Lo, Aditya Akella, Thomas Anderson, Arvind Krishnamurthy, T. S. Eugene Ng, and Ang Chen <b>HotNets 2021</b>	
	Toward Reconfigurable Kernel Datapaths with Learned Optimizations <b>Yiming Qiu</b> , Hongyi Liu, Thomas E. Anderson, Yingyan Lin, Ang Chen <b>HotOS 2021</b>	
	Probabilistic Profiling of Stateful Data Planes for Adversarial Testing Qiao Kang, Jiarong Xing, <b>Yiming Qiu</b> , and Ang Chen <b>ASPLOS 2021</b>	
	Clara: Performance Clarity for SmartNIC Offloading <b>Yiming Qiu</b> , Qiao Kang, Ming Liu, and Ang Chen <b>HotNets 2020</b>	
	A Feasibility Study on Time-aware Monitoring with Commodity Switches <b>Yiming Qiu</b> , Kuo-Feng Hsu, Jiarong Xing, and Ang Chen <b>SPIN 2020</b>	
RESEARCH EXPERIENCE	<b>University of Michigan</b> Research Assistant (Mentor: Ang Chen)	Aug. 2023 - Present

- Research on cloud automation, including the vision of cloudless computing (HotNets'23), mining, validating, and checking against cloud resource requirements (Accepted by SOSP'24), lifting cloud resources out of brownfield deployment (in submission), and disaggregated eBPF architecture via RDMA (in submission).

**Rice University**

Jan. 2020 - Aug. 2023

Research Assistant (Mentor: Ang Chen)

- Research on program analysis and formal reasoning support for complex systems, including runtime programmable switch update synthesis (NSDI'23), automated SmartNIC offloading insights for network functions (SOSP'21, HotNets'20), infrastructure for in-kernel machine learning (HotOS'21). programmable network support for secure RDMA systems (USENIX Security'22) and network monitoring (SPIN'20), programmable data plane profiling (ASPLOS'21), runtime programmable network (SIGCOMM'23, HotNets'21).

**Microsoft AFO OCTO**

May. 2022 - May. 2023

Research Intern (Mentor: Ryan Beckett)

- Research on multi-WAN (5G operators and Azure) traffic forwarding and optimization systems.

OPEN SOURCE  
PROJECTS

Zodiac: <https://github.com/824728350/Zodiac>  
 Clara: <https://github.com/824728350/Clara>  
 FlexPlan: <https://github.com/824728350/FlexPlan>  
 Pipeleon: <https://github.com/jiarong0907/Pipeleon>  
 Bedrock: <https://github.com/alex1230608/Bedrock>  
 P4wn: <https://github.com/qiaokang92/P4wn>  
 Otter: <https://github.com/OTTER-5GWAN/topology>

PAPER REVIEW

WWW 2025, P4 2024, WWW 2024, ToN, JSAC, Computer Networks

TEACHING  
EXPERIENCE

**Rice University**

Teaching Assistant

COMP536: Secure and Cloud Computing

Fall 2021, Fall 2020