

# Jiaming Qiu

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## **EDUCATION**

**Washington University in St. Louis**

Expected Graduation: Dec. 2025

Ph.D. in Computer Science

GPA: 4.00/4.0

**Washington University in St. Louis**

May 2020

B.S. in Computer Science

GPA: 3.94/4.0

## **RESEARCH EXPERIENCE**

**Washington University in St. Louis**

**Research Project:** Network Optimization through Traffic “Reprofiling”

Dec. 2020 – Present

Mentor: Dr. Roch Guerin

St. Louis, MO

- Investigated bandwidth minimization for networks that provide latency guaranteed services for user flows.
- Developed a simulator for traffic shaping networks.
- Proposed both an exact and approximate optimization algorithm to adjust flow profiles for networks with SCED schedulers.
- Extended the solution to networks with FIFO/static priority schedulers.
- Evaluated the performance and scalability of the algorithms on both synthetic and realistic network configurations.

**Research Project:** A Learning-based Solution for Edge Offloading under Rate Constraints

May 2020 – Dec. 2022

Mentor: Dr. Roch Guerin, Dr. Chenyang Lu, Dr. Ayan Chakrabarti

St. Louis, MO

- Investigated edge computing systems that perform real-time image classification/object detection under network and/or computation resource constraints.
- Proposed a Deep Reinforcement Learning based solution to make offloading decisions that optimize the classification accuracy given correlated image stream inputs.
- Developed a solution to measure object detection accuracy improvement from image offloading.

**Nanjing Institute of Geography and Limnology, Chinese Academy of Sciences**

**Research Project:** Hydrological responses to vegetation recovery in the Poyang Lake Basin

Mar. 2017 – Feb. 2018

Mentor: Dr. Dan Zhang

Nanjing, Jiangsu, China

- Collected and analyzed meteorological and hydrological data.
- Implemented a model to calculate potential evapotranspiration based on Penman formula (WMO Schema).
- Co-authored journal publication.

## **PROFESSIONAL EXPERIENCE**

**Google**

Aug. 2022 – Dec. 2022

*Software Engineering Intern*

Sunnyvale, CA

- Proposed a systematic procedure to process and analyze network anomaly data.
- Applied multiple clustering algorithms to predict the root causes of network anomalies.

## **LEADERSHIP AND SERVICE EXPERIENCE**

**Washington University in St. Louis**

St. Louis, MO

*Assistant in Instruction for CSE 538 (Modeling and Performance Evaluation of Computer Systems)*

Sep. – Dec. 2021, 2023

- Hosted 5 lectures, each 1.5 hours in length.
- Held 1.5 office hours weekly to answer questions for over 30 students.

*Teaching Assistant for CSE 347 (Analysis of Algorithm)*

Sep. – Dec. 2019

- Graded exams and weekly assignments.
- Held 1.5 office hours weekly to answer questions for over 40 students.

**Nanjing University of Information Science & Technology**

Nanjing, Jiangsu, China

*Class Monitor*

Feb. 2017 – June 2018

- Collected questions regarding course logistics and materials from the entire class.
- Helped instructors with general student affairs.

## **PUBLICATIONS**

- **Jiaming Qiu**, Ruiqi Wang, Brooks Hu, Roch Guerin, and Chenyang Lu, 2024. Optimizing Edge Offloading Decisions for Object Detection. *IEEE/ACM Symposium on Edge Computing (SEC)*.
- **Jiaming Qiu**, Jiayi Song, Roch Guerin, and Henry Sariowan, 2024. On the Benefits of Traffic “Reprofiling” – the Multiple Hops Case – Part I. *IEEE/ACM Transactions on Networking*, 3421 - 3436.
- **Jiaming Qiu**, Ruiqi Wang, Ayan Chakrabarti, Roch Guerin, and Chenyang Lu, 2022. Adaptive edge offloading for image classification under rate limit. *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, (41-42), 3886–3897.
- Jiayi Song, **Jiaming Qiu**, Roch Guerin, and Henry Sariowan, 2024. On the Benefits of Traffic “Reprofiling” the Single Hop Case. *IEEE/ACM Transactions on Networking*, 2511 - 2524.
- Ruiqi Wang, Hanyang Liu, **Jiaming Qiu**, Moran Xu, Roch Guerin, and Chenyang Lu, 2023, Progressive Neural Compression for Adaptive Image Offloading under Timing Constraints. *IEEE Real-Time Systems Symposium (RTSS)*, 118-130.
- Dan Zhang, Qi Zhang, **Jiaming Qiu**, Peng Bai, Kang Liang, and Xianghu Li, 2018. Intensification of hydrological drought due to human activity in the middle reaches of the Yangtze River, China. *Science of the Total Environment*, (637–638), 1432–1442.

## **GRANTS, AWARDS, CERTIFICATES, AND HONORS**

Best Student Paper, IEEE Real-Time Systems Symposium (RTSS)	2023
Dean’s Select PhD Fellowship, Washington University in St. Louis	2020
Research Experience for Undergraduates, Washington University in St. Louis	2019
Dean’s List, Washington University in St. Louis	2018 – 2020
Second Prize, the 10th Knowledge Competition for College Students in Jiangsu Province	2018
Honorary Student Certificate, Nanjing University of Information Science & Technology	2018
First Prize, the 14th Advanced Mathematics Competition for Jiangsu Provincial College Students	2017
First Prize Scholarship, Nanjing University of Information Science & Technology	2016 – 2017

## **SKILLS**

**Programming:** Python, C++, Java.

**Technical:** Networking Protocols, Software Development, Machine Learning, Operating Systems, Network Simulation Tools, Cloud Computing, Distributed Systems.

**Research:** Network Performance Analysis, Algorithm Design, Optimization Techniques, Simulation and Modeling, Protocol Development and Analysis.