Jiaming Qiu

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EDUCATION

Washington University in Saint Louis, Missouri.   St. Louis, MO

B.S. in Computer Science. GPA: 3.94/4.0, Summa Cum Laude.   Aug. 2018 – May 2020

PhD in Computer Science, Expected Graduation: May 2025. GPA: 4.0/4.0   Sep. 2020 – Present

Summer Scholars Program at Saint Louis University.   St. Louis, MO

Program of Study: Geographic Information System.   July 2017 – Aug. 2017

Nanjing University of Information Science & Technology, Nanjing, Jiangsu, China.   Nanjing, Jiangsu, China

B.S. in Atmospheric Science.   Sep. 2016 – June 2018

School of Honors Rank 1/44.

RESEARCH EXPERIENCES

A Learning-based Solution for Edge Offloading under Constraints   St. Louis, MO

Washington University in St. Louis   Mentor: Professor Roch Guerin,   Nov. 2020 – Present
                                          Chenyang Lu, Ayan Chakrabarti

- Investigated an edge computing setup that needs to perform real-time image classification under network and/or computation resource constraints.
- Proposed a solution based on Deep Q-Network (DQN) that aims to optimize the classification accuracy of the system given correlated inputs from general arrival processes.
- Extensively evaluated performance of the proposed solution.
- Extended the solution to make offloading decisions for object detection applications.

Lowering Inter-Datacenter Network Bandwidth with Latency Guarantees

Washington University in St. Louis   Mentor: Professor Roch Guerin.

- Investigated the problem of minimizing total link bandwidth within multi-hop inter-datacenter networks for flows that need latency guarantees.
- Proposed a non-linear program based optimization algorithm for networks with SCED schedulers and per-hop traffic (re)shaping using two-slope token bucket (re)shapers.
- Proposed an efficient greedy heuristic that approximates the optimal solution with minimal computational overhead.
- Evaluated the performance and scalability of the algorithms on both synthetic and realistic datacenter network topologies.
- Extended the solution to networks with FIFO/static priority schedulers.

Hydrological responses to vegetation recovery based on water-energy coupled method in the Poyang Lake Basin.

Nanjing, Jiangsu, China
Mar. 2017 – Feb. 2018

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

Mentor: Associate Professor Dan Zhang.

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

WORK EXPERENCES

Google

Sunnyvale, CA

Software Engineering Intern

Aug. 2022 – Dec. 2022

- Proposed a systematic procedure to develop and evaluate clustering algorithms on network anomaly data.
- Applied clustering algorithms to predict the root causes of network anomalies with a reasonable accuracy.

TEACHING & LEADERSHIP EXPERENCES

Washington University in St. Louis

St. Louis, MO

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

Sep. 2021 – Dec. 2021

- Hosted 3 review sessions, each 1.5 hours in length.
- Graded all the preview problems.
- Held 1.5 weekly office hours to answer any question with regard to course materials, preview problems, quizzes, or homework.

Washington University in St. Louis

St. Louis, MO

Teaching Assistant for CSE 347 (Analysis of Algorithm)

Sep. 2019 – Dec. 2019

- Graded weekly assignments and exams.
- Held 1.5 weekly office hours to help around 5 students on average with course materials, algorithm designing techniques and answer questions about homework.

Advisor of Mathematical Contest in Modeling

Jan. 2019 – May

Nanjing University of Information Science & Technology.

Nanjing, Jiangsu, China
Feb. 2017 – June 2018

Student in charge of studies for 2020 ChangWang class.

- Took attendance and helped with homework sending and receiving.
- Answered questions about all courses materials and exam preparation for the rest of the class (43 students).

AWARDS AND HONORS

Washington University in St. Louis.   St. Louis, MO

- Dean's Select PhD Fellowship   2020
- Dean's List   Aug. 2018 – Dec. 2019

Nanjing University of Information Science & Technology.   Nanjing, Jiangsu, China

- Awarded Second Prize for the 10th Knowledge Competition for College Students   2018
  in Jiangsu Province.
- Awarded Third Prize for Beidou-Cup China Adolescents Science & Technology Invention Contest.   2018
- Special Ability Certificate for high knowledge level of humanities and social sciences.   2018
- Honorary Student Certificate for Changwang School of honors.   2018
- Awarded First Prize in the 14th Advanced Mathematics Competition for Jiangsu Provincial   2017
  College Students (Undergraduate First Class Group).
- Awarded Second Prize in the 9th National College Mathematics Competitions, Jiangsu Division.   2017
- Awarded Second Prize in the 15th National Competition of Extracurricular Academic   2017
  Technological Product in Jiangsu Province.
- Awarded Special Prize in the 15th Competition of Extracurricular Academic Technological Product in   2017
  Campus Trials.
- Awarded Third Prize for Band C in 2017 National English Competition for College Students.   2017
- Awarded Third Prize in the Preliminary Round of 2017 "FLTRP Cup" English Reading Contest.   2017
- Awarded Silver Medal for the 3rd Internet Plus College Innovation and Entrepreneurship Competition   2017
  in Nanjing University of Information Science &Technology.
- Certificate of Level 2, National Computer Rank Examination.   2017
- Awarded First Prize Scholarship.   2016-2017
- Pacemaker to Merit Student.   2016-2017
- Excellent Student Cadre.   2016-2017
- Keynote Speaker of Undergraduate Meeting for Learning Experience Exchange.   2017
- Speaker as Freshman Representative in Opening Ceremony for freshmen.   2016

GRANT SUPPORT

NSF REU - Big Data Analytics.   St. Louis, MO, 2019

PUBLICAITONS

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*, (01), 1-14.

Ruiqi Wang, Hanyang Liu, **Jiaming Qiu**, Moran Xu, Roch Guerin, 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, 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.

ACTIVITES

Math Modeling.	2017
Chorus Contest.	2016
Blood Donation.	2016
Drama Performing.	2016
University's badminton Club.	2016
Volunteer for World Meteorological Day.	2015
Youth Olympic volunteer.	2014
Volunteer for Gulou District Library of Nanjing, China.	2014
School's Astronomy Club.	2013