Yu-Zhen Janice CHEN

On 2025/26 Job Market, Actively Seeking Postdoctoral Opportunity
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Research Interest

My research strives to develop **resource-efficient decision-making algorithms** that optimize modern **networked systems** while saving resource costs such as sample collection, energy consumption, communication overhead, and computational complexity. In light of this vision, I concentrate on the **theoretical foundations** of multi-armed bandit, distributed learning, quickest change detection, and network science, and their **applications** in environmental monitoring, wireless communication, and quantum networks.

Education

University of Massachusetts, Amherst — **United States**
Ph.D. in Computer Science — *2019 – 2026 (Expected)*
Dissertation: Toward Resource-Efficient Decision-Making for Networked Systems
Advisor: Prof. Don Towsley

University of Massachusetts, Amherst — **United States**
M.Sc. in Computer Science — *2019 – 2023*

The Chinese University of Hong Kong — **Hong Kong**
B.Sc. with Honours in Computer Science (1st Class) — *2014 – 2019*

Academia Experience

University of Massachusetts, Amherst — **United States**
Research Assistant, Manning College of Information and Computer Science — *2019 – Present*
Advisor: Prof. Don Towsley

National Institute for Research in Digital Science and Technology (INRIA) — **Paris, France**
Research Intern, Learning, Graphs and Distributed Optimization (ARGO) Team — *Winter 2023/24*
Advisor: Dr. Laurent Massoulié

The Chinese University of Hong Kong — **Hong Kong**
Research Intern, Department of Computer Science and Engineering — *2017 – 2019*
Advisor: Prof. John C.S. Lui

National Institute for Research in Digital Science and Technology (INRIA) — **Sophia Antipolis, France**
Research Intern, Network Engineering and Operations (NEO) Team — *Summer 2018*
Advisor: Dr. Konstantin Avrachenkov

Selected Publications

* represents equal contribution or alphabetical order.

[S1] Xuchuang Wang*, **Yu-Zhen Janice Chen***, Xutong Liu, Lin Yang, Mohammad Hajiesmaili, Don Towsley, and John CS Lui. "Asynchronous Multi-Agent Bandits: Fully Distributed vs. Leader-Coordinated Algorithms." *ACM Measurement and Analysis of Computing Systems (**SIGMETRICS**)*, 2025.

[S2] **Yu-Zhen Janice Chen**, Lin Yang, Xuchuang Wang, Xutong Liu, Mohammad Hajiesmaili, John CS Lui, and Don Towsley. "On-Demand Communication for Asynchronous Multi-Agent Bandits." *International Conference on Artificial Intelligence and Statistics (**AISTATS**)*, 2023.

Full Publications (Journals)

* represents equal contribution or alphabetical order.

[J1] **Yu-Zhen Janice Chen***, Laurent Massoulié*, Don Towsley*. "Performance of Gaussian Boson Sampling on Planted Bipartite Clique Detection." In Submission.

[J2] **Yu-Zhen Janice Chen**, Daniel S. Menasché, and Don Towsley. "On Collaboration in Distributed Parameter Estimation with Resource Constraints." *IEEE Transactions on Network and Service Management (**TNSM**)*, 2024.

[J3] Kechao Cai, Xutong Liu, **Yu-Zhen Janice Chen**, and John CS Lui. "Learning with Guarantee via Constrained Multi-Armed Bandit: Theory and Network Applications." *IEEE Transactions on Mobile Computing (**TMC**)*, 2022.

[J4] Xutong Liu, **Yu-Zhen Janice Chen**, John CS Lui, and Konstantin Avrachenkov. "Learning to Count: A Deep Learning Framework for Graphlet Count Estimation." *Network Science*, 2021.

Full Publications (Conferences)

* represents equal contribution or alphabetical order.

[C1] Xuchuang Wang, **Yu-Zhen Janice Chen**, Matheus Guedes de Andrade, Mohammad Hajiesmaili, John Lui, Ting He, and Don Towsley. "Online Experimental Design for Network Tomography." In Submission.

[C2] Yufei Zheng, **Yu-Zhen Janice Chen**, Prithwish Basu, and Don Towsley. "A quantum advantage in localizing transmission loss change in optical networks." *IEEE Conference on Quantum Computing and Engineering (**QCE**)*, 2025.

[C3] Xuchuang Wang, **Yu-Zhen Janice Chen**, Matheus Guedes de Andrade, Jonathan Allcock, Mohammad Hajiesmaili, John CS Lui, and Don Towsley. "Quantum Best Arm Identification with Quantum Oracles." *Conference on Artificial Intelligence (**AAAI**)*, 2025.

[C4] Xuchuang Wang*, **Yu-Zhen Janice Chen***, Xutong Liu, Lin Yang, Mohammad Hajiesmaili, Don Towsley, and John CS Lui. "Asynchronous Multi-Agent Bandits: Fully Distributed vs. Leader-Coordinated Algorithms." *ACM Measurement and Analysis of Computing Systems (**SIGMETRICS**)*, 2025.

[C5] **Yu-Zhen Janice Chen**, Jinhang Zuo, Venugopal V. Veeravalli, and Don Towsley. "Quickest Change Detection with Confusing Change." *IEEE 58th Annual Asilomar Conference on Signals, Systems and Computers (**ACSSC**)*, 2024.

[C6] Xuchuang Wang, Lin Yang, **Yu-Zhen Janice Chen**, Xutong Liu, Mohammad Hajiesmaili, Don Towsley, John CS Lui. "Exploration for Free: How Does Reward Heterogeneity Improve Regret in Cooperative Multi-agent Bandits?" *Conference on Uncertainty in Artificial Intelligence (**UAI**)*, 2023.

[C7] **Yu-Zhen Janice Chen**, Lin Yang, Xuchuang Wang, Xutong Liu, Mohammad Hajiesmaili, John CS Lui, and Don Towsley. "On-Demand Communication for Asynchronous Multi-Agent Bandits." *International Conference on Artificial Intelligence and Statistics (**AISTATS**)*, 2023.

[C8] Xuchuang Wang, Lin Yang, **Yu-Zhen Janice Chen**, Xutong Liu, Mohammad Hajiesmaili, Don Towsley, John CS Lui. "Achieve Near-Optimal Individual Regret and Low Communications in Multi-Agent Bandits." *International Conference on Learning Representations (**ICLR**)*, 2023.

[C9] Lin Yang, **Yu-Zhen Janice Chen**, Mohammad H. Hajiesmaili, Mark Herbster, and Don Towsley. "Hierarchical Learning Algorithms for Multi-Scale Expert Problems." *ACM Measurement and Analysis of Computing Systems (**SIGMETRICS**)*, 2022.

[C10] Lin Yang, **Yu-Zhen Janice Chen**, Mohammad Hajiemaili, John CS Lui, and Don Towsley. "Distributed Bandits with Heterogeneous Agents." *IEEE Conference on Computer Communications (**INFOCOM**)*, 2022.

[C11] Lin Yang, **Yu-Zhen Janice Chen**, Stephen Pasteris, Mohammad Hajiesmaili, John CS Lui, and Don Towsley. "Cooperative Stochastic Bandits with Asynchronous Agents and Constrained Feedback." *Advances in Neural Information Processing Systems (**NeurIPS**)*, 2021.

[C12] **Yu-Zhen Janice Chen**, Daniel S. Menasché, and Don Towsley. "To Collaborate or Not in Distributed Statistical Estimation with Resource Constraints?." *IEEE 55th Annual Conference on Information Sciences and Systems (**CISS**)*, 2021.

[C13] Kechao Cai, Xutong Liu, **Yu-Zhen Janice Chen**, and John CS Lui. "An Online Learning Approach to Network Application Optimization with Guarantee." *IEEE Conference on Computer Communications (**INFOCOM**)*, 2018.

Academic Service

Journal Reviewer: Quantum, IEEE Transactions on Network and Service Management, IEEE Transactions on Automatic Control

Program Committee Member/Conference Reviewer: NeurIPS (2025, 2023), ICML (2026, 2025, 2024), ICLR (2026, 2025, 2024), AAAI (2026, 2025), ICASSP (2026)

Graduate Student Representative: CICS, UMass Amherst (2022)

Mentoring and Teaching Experience

Undergraduate Honors Thesis, CICS, UMass Amherst
Committee Member, Jocelyn Velazquez (undergraduate student → Google) *2023 - 2025*

Undergraduate Research Volunteer Program, CICS, UMass Amherst
Mentor, Mentored seven undergraduate students on two summer research projects *Summers 2023, 2024*

Eureka! Program, CICS, UMass Amherst
Teaching Assistant, Taught underrepresented middle school students coding — *Summer 2022*

PhD Application Support Program, CICS, UMass Amherst
Mentor, Supported five underrepresented candidates for CS PhD applications — *Falls 2021, 2022, 2025*

COMPSCI 590Q Quantum Information Systems, CICS, UMass Amherst
Teaching Assistant, Led two online (during Covid) discussion sessions per week — *Fall 2020*

Oral Presentations

Cooperative Multi-Agent Multi-Armed Bandits:
ACM SIGMETRICS, Stony Brook University, NY — Jun 2025
Scool Team Seminar, Inria Lille, France — Sept 2023
Signal Processing Lab Seminar, Aalto University, Finland — Sept 2023

Quickest Change Detection Under Uncertainty:
IEEE ACSSC, Asilomar, CA — Oct 2024
IoBT-CRA Bootcamp, UCLA, CA — Feb 2024

Gaussian Boson Sampling and Planted Clique Problem:
CICS Theory Seminar, UMass Amherst, MA — Apr 2024
ARGO Team Seminar, Inria Paris, France — Feb 2024

Honors and Awards

ACM SIGMETRICS Travel Grant — 2023
Donald F. Towsley Graduate Scholarship, CICS, UMass Amherst — 2023
CICS Fellowship, UMass Amherst — 2019
Prof. Charles K. Kao Research Exchange Scholarship, Faculty of Engineering, CUHK — 2017
S.H. Ho College Master's List Awards, CUHK — 2017
S.H. Ho College Summer Exchange Scholarship, CUHK — 2017
ELITE Stream Student Scholarship, Faculty of Engineering, CUHK — 2014, 2017
Dean's List, Faculty of Engineering, CUHK — 2014, 2017
Faculty of Engineering Admission Scholarship, CUHK — 2014
Computer Science and Engineering Department Entrants Scholarship, CUHK — 2014
S.H. Ho College Annual Scholarships for Outstanding Academic Performance, CUHK — 2014
Honors at Entrance, CUHK — 2014

Work Experience

Cisco Systems, Inc. — **San Jose, United States**
Software Engineer Intern, Mentor: Dr. Debojyoti Dutta — *2016 – 2017*

CUHK CSE Department — **Hong Kong**
Part-time Programmer, Mentor: Dr. Mole T.Y. Wong — *Spring 2016*

SLLIN Consultants — **Hong Kong**
Assistant Software Developer, Mentor: Mr. SL Ho — *2015 – 2016*

References

- **Don Towsley**
  Distinguished Professor
  Manning College of Information & Computer Sciences
  University of Massachusetts Amherst
  towsley@cs.umass.edu
  413-545-0207

- **Mohammad Hajiesmaili**
  Associate Professor
  Manning College of Information & Computer Sciences
  University of Massachusetts Amherst
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