Xi (Chase) **Jiang**

CS PH.D. STUDENT IN COMPUTER SCIENCE

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Summary

PhD student in Computer Science at the University of Chicago, specializing in synthetic data generation, ML-driven network traffic modeling, and real-time data systems. Published in top-tier venues including SIGMETRICS, KDD, WWW, and CoNEXT, with multiple works on state space models, protocol-constrained traffic generation, generative modeling for realistic network traces, and real-time data solutions for robust network analysis and synthetic data applications.

Education

The University of Chicago

Chicago, IL

PH.D. STUDENT IN COMPUTER SCIENCE — *Sep. 2021 - Present*

- Advisor: Prof. Nick Feamster (ACM Fellow, MIT Tech Review 35 under 35)
- Recipient of Crerar Fellowship
- Successfully defended M.S. thesis as a part of the integrated Ph.D. program

Colgate University

Hamilton, NY

B.S. IN COMPUTER SCIENCE AND ECONOMICS — *Sep. 2017 - May. 2021*

- High Honors in Computer Science
- Laura Sanchis Award for Excellence in Research

Selected Experience

MindFlow

New York

CO-FOUNDER — *July. 2025 - Present*

- Co-founded MindFlow, a next-generation brain-machine interface startup developing wearables to track and optimize focus, energy, and cognitive performance.
- Raised and closed a $1M pre-seed round at a $10M valuation within two weeks, backed by leading investors in AI, neurotech, and consumer hardware.
- Positioned MindFlow as the first consumer-friendly cognitive optimization wearable, integrating neuroscience breakthroughs, advanced biosensing, and AI.

SoMe Social

Chicago

CO-FOUNDER — *July. 2024 - Present*

- Co-founded the AI-driven social application, progressing to the second round of TechStars evaluation and first place in WeShine Pitch competition.
- Led product concept and strategy, integrating AI to enhance matchmaking and user retention.

Rockfish AI

Remote

MACHINE LEARNING ENGINEER - INTERN — *June. 2024 - Sep. 2024*

- Incorporate, onboard and test machine learning models (GANs and LLMs) for Generative AI based synthetic data platform.
- Developed a patented data preprocessing technique that enhanced platform data handling capacity by over 100x and accelerated model training speed by more than 30x.
- Designed and implemented a resource estimator for preemptive onboarding failure prediction and fault analysis in ML model data preprocessing and training.

Red Pulse

Shanghai, China

TIER 1 RESEARCH ANALYST — *May. 2019 - May. 2020*

- Gathered and analyzed up to 240 pieces of major technological and financial information in the Chinese market.
- Assisted full-time workers in producing 2Q19 report for the Chinese telecom industry.

Yinlang Limited *Shanghai, China*

Intern *May. 2018 - Aug. 2018*

- Contributed to building a WeChat mini-program that consolidates user activity tracking with real-time data analytics. Integrated various APIs to capture engagement metrics (e.g., interaction frequency and patterns). Designed a user-friendly front-end interface using WXML and WXSS.
- Leveraged machine learning algorithms, including clustering (e.g., k-means) and predictive modeling techniques, to analyze user data for behavior patterns and preferences.

Staubli Robotics *Greenvile, SC*

Programming Intern *May. 2015 - Aug. 2016*

- Improved the operational efficiency of industrial robots by approximately 2X through advanced path optimization techniques.
- Leveraged algorithms like A* and Dijkstra's for calculating shortest paths within high-complexity environments, incorporating constraints specific to industrial settings (e.g., obstacle avoidance, joint limitations, and kinematic reachability).

Selected Publications

ML FOR NETWORKS

[Preprint 1] SwiftQueue: Optimizing Low-Latency Applications with Swift Packet Queuing *arXiv (In submission)*

Siddhant Ray, **Xi Jiang**, Jack Luo, Nick Feamster, Junchen Jiang

`https://arxiv.org/pdf/2410.06112`

CAIP: Detecting Router Misconfigurations with Context-Aware Iterative Prompting of LLMs *arXiv (In submission)*

Xi Jiang, Aaron Gember-Jacobson, Nick Feamster

`https://arxiv.org/pdf/2411.14283`

[Conference 1] NetSSM: Comprehensive and Realistic Network Trace Generation via State Space Models *HKUST, Hong Kong*

Andrew Chu*, **Xi Jiang***, Shinan Liu, Arjun Nitin Bhagoji, Paul Schmitt, Francesco Bronzino, and Nick Feamster *Dec 2025*

International Conference on emerging Networking EXperiments and Technologies (**CoNEXT'25)**

[Conference 2] JITI: Dynamic Model Serving for Just-in-Time Traffic Inference *HKUST, Hong Kong*

Xi Jiang, Shinan Liu, Saloua Naama, Francesco Bronzino, Paul Schmitt, and Nick Feamster *Dec 2025*

International Conference on emerging Networking EXperiments and Technologies (**CoNEXT'25)**

[Workshop 1] Feasibility of State Space Models for Network Traffic Generation *Sydney, Australia*

Andrew Chu*, **Xi Jiang***, Shinan Liu, Arjun Nitin Bhagoji, Paul Schmitt, Francesco Bronzino, and Nick Feamster *Aug. 2024*

ACM SIGCOMM (**SIGCOMM'24 NAIC Workshop)**

[Conference 3] NetDiffusion: Network Data Augmentation Through Protocol-Constrained Traffic Generation *Venice, Italy*

Xi Jiang, Shinan Liu, Aaron Gember-Jacobson, Arjun Nitin Bhagoji, Paul Schmitt, Francesco Bronzino, and Nick Feamster *June 2024*

ACM Special Interest Group on Measurement and Evaluation (**SIGMETRICS'24)**

[Poster 1] Transformer-based Predictions for Sudden Network Changes *SANTA CLARA, CA*

Siddhant Ray, **Xi Jiang**, Zhuohan Gu, Junchen Jiang, and Nick Feamster *April 2024*

21st USENIX Symposium on Networked Systems Design and Implementation (**NSDI'24 Poster)**

[Workshop 2] Generative, High-Fidelity Network Traces *Boston, MA*

Xi Jiang*, Shinan Liu*, Aaron Gember-Jacobson, Paul Schmitt, Francesco Bronzino, and Nick Feamster *Nov. 2023*

ACM Workshop on Hot Topics in Networks (**HotNets'23)**

[Conference 4] Augmenting Rule-based DNS Censorship Detection at Scale with Machine Learning — *Long Beach, CA*

Xi Jiang*, Jacob Brown*, Van Tran*, Arjun Nitin Bhagoji, Nguyen Phong Hoang, Nick Feamster, Prateek Mittal, Vinod Yegneswaran — *Aug. 2023*

ACM SIGKDD Conference on Knowledge Discovery and Data Mining (**KDD'23**)

[Workshop 3] Towards Designing Robust and Efficient Classifiers for Encrypted Traffic in the Modern Internet — *Belgrade, Serbia*

Xi Jiang, Shinan Liu, Saloua Naama, Francesco Bronzino, Paul Schmitt, and Nick Feamster — *Oct. 2022*

IAB workshop on Management Techniques in Encrypted Networks **(IAB M-TEN'22)**

NETWORKS MEASUREMENT AND TESTING

[Journal 1] Automating Internet of Things Network Traffic Collection with Robotic Arm Interactions — *Journal Publication*

Xi Jiang, Noah Apthorpe — *May. 2023*

Journal of Communications 18 (5), 283–293 **(JCM)**

[Conference 5] Measuring and Evading Turkmenistan's Internet Censorship — *Austin, TX*

Sadia Nourin, Van Tran, **Xi Jiang**, Kevin Bock, Nick Feamster, Nguyen Phong Hong, Dave Levin — *April. 2023*

ACM Web Conference **(WWW'23)**

[Poster 2] Non-interoperability Detection for Routing Protocol Implementations — *Virtual*

Xi Jiang, Aaron Gember-Jacobson — *Aug. 2021*

ACM SIGCOMM Poster and Demo **(SIGCOMM'21 Poster)**
First Place in the Undergraduate Student Research Competition

[Workshop 4] A Permutation Representation of Covering Arrays — *Virtual*

Ryan E. Dougherty, **Xi Jiang** — *May. 2021*

Genetic Improvement Workshop at the International Conference on Software Engineering **(GI @ ICSE'21)**

General Large Language Model

Humanity's Last Exam — *arXiv*

Long Phan*, Alice Gatti*,..., **Xi Jiang***, *et al.* — *2025*

`https://arxiv.org/abs/2501.14249`

Selected Patents

2025 **Provisional Patent Filing: ENABLING SCALABLE GENERATIVE MODEL TRAINING FOR HIGH CARDINALITY EVENT STREAMS USING STATE AWARE BINNING ENCODING,** Ref. No.: RDI-0008US01 — *Patent*

2025 **Provisional Patent Filing: Diffusion-Based Network Traffic Generation,** MBHB Ref. 24-1051-US-PRO — *Patent*

Honors & Awards

2022	**Best Presentation Award**, WIOTT at ICCSIT 2022	*Tokyo, Japan*
2021	**First Place Winner**, ACM Student Research Competition (SRC) at SIGCOMM	*Virtual (ACM)*
2021	**Crerar Fellowship**, the University of Chicago	*Chicago, IL*
2021	**Laura Sanchis Award for Excellence in Research**, Colgate University	*Hamilton, NY*
2021	**High Honors in Computer Science**, Colgate University CS Department	*Hamilton, NY*
2017-21	**Dean's Award with Distinction for Academic Excellence**, Colgate University	*Hamilton, NY*
2017	**Certificate of Recognition For Outstanding Artwork Selected for Display**, Chapman Cultural Center	*Spartanburg, SC*
2017	**Top Cooperation Award of Young Talent Program Social Practice Camp**, China Everbright Bank	*Shenyang, China*
2016	**Outstanding Intern Award**, Staubli Robotics	*Greenvile, SC*
2016	**Second Place Award in D1 Clemson Calculus Challenge**, Clemson University	*Clemson, SC*
2016	**Outstanding Delegate Award**, SC Model Arab League	*Clemson, SC*
2015	**Furman Scholar**, Furman University	*Greenvile, SC*
2015	**Wofford Scholar**, Wofford University	*Spartanburg, SC*

Academic Services

2025-Present	**Member**, NSF ACTION Institute Student Advisory Council	
2025	**Reviewer (1 paper)**, IEEE Internet of Things Journal	*Journal*
2025	**Reviewer (3 papers)**, Computer Networks (COMNET)	*Journal*
2024-2025	**Reviewer (3 paper)**, IEEE/ACM Transaction on Networking	*Journal*
2024	**Reviewer (1 paper)**, Conference on Neural Information Processing Systems (NeurIPS)	*Vancouver, Canada*
2024	**TPC Member (6 papers)**, ACM Internet Measurement Conference (IMC)	*Madrid, Spain*
2023	**External Reviewer (2 papers)**, Free and Open Communications on the Internet (FOCI) hosted by PETS	*Bristol, UK*
2021	**Proposal Writer**, Competition at the Genetic and Evolutionary Computation Conference (GECCO'21)	*Virtual*
2020-21	**Research Assistant**, Colgate University CS Department	*Hamilton, NY*

Media Coverage

University of Chicago Researchers Revolutionize Network Traffic Generation with AI Breakthrough — *UChicago CS News*

March 2025

`http://cs.uchicago.edu/news/university-of-chicago-researchers-revolutionize-network-traffic-generation-with-ai-breakthrough/`