

Yucheng Yin

989 E Hillsdale Blvd #400 – Foster City, CA 94404

✉ sniperyyc@gmail.com • 🌐 sniperyyc.com

🔍 Google Scholar 🔄 sniperyyc

Employment

Conviva

Senior Software Engineer

Foster City, CA

August 2024 - Present

Education

Carnegie Mellon University

Ph.D. in Electrical and Computer Engineering

Secondary M.S. in Electrical and Computer Engineering

Advisor: Vyas Sekar

Pittsburgh, PA, USA

September 2018 - September 2024

University of Michigan

B.S. in Computer Science Engineering

GPA: 3.9/4.0. Summa cum laude

Ann Arbor, MI, USA

September 2016 - May 2018

Shanghai Jiao Tong University (SJTU)

B.S. in Electrical and Computer Engineering

GPA: 3.8/4.0. Rank: 10/189. Graduation Speaker

Shanghai, China

September 2014 - August 2018

Research Interests

Machine Learning (Deep Generative Models), Network Security, Networked Systems

Publications

- [1] **Yucheng Yin**, Seo Young Ko, Zinan Lin, Minhao Jin, Jorge Guajardo Merchan, Giulia Fanti, and Vyas Sekar. "DeepStore: A Framework for Evaluating the Viability of Deep Generative Compression for Long-Term Network Trace Storage". Under preparation.
- [2] **Yucheng Yin**, Jorge Guajardo Merchan, Pradeep Pappachan, and Vyas Sekar. "Work-in-Progress: CANGen: Practical Synthetic CAN Traces Generation Using Deep Generative Models". In: *2024 IEEE European Symposium on Security and Privacy Workshops (EuroS&PW)*. IEEE. 2024, pp. 1–9.
- [3] **Yucheng Yin**, Zinan Lin, Minhao Jin, Giulia Fanti, and Vyas Sekar. "Practical gan-based synthetic ip header trace generation using netshare". In: *Proceedings of the ACM SIGCOMM 2022 Conference*. 2022, pp. 458–472.
- [4] **Yucheng Yin**, Zinan Lin, Minhao Jin, Giulia Fanti, and Vyas Sekar. "PcapShare: Exploring the Feasibility of GANs for Synthetic Packet Header Trace Generation". In: *Fourteenth International Conference on COMMunication Systems and NETWORKS (COMSNETS) (demo)*. 2022.
- [5] Fenghao Dong, **Yucheng Yin**, Shinan Liu, and Vyas Sekar. "Tackling Long-Term Network Trace Retention Challenges Using Deep Generative Compression". In: *Workshop on SOC Operations and Construction (WOSOC)*. Co-located with NDSS Symposium 2025, San Diego, CA. 2025.
- [6] Soo-Jin Moon, **Yucheng Yin**, Rahul Anand Sharma, Yifei Yuan, Jonathan M Spring, and Vyas Sekar. "Accurately measuring global risk of amplification attacks using ampmap". In: *Proceedings of the 30th {USENIX} Security Symposium*. 2021.
- [7] Soo-Jin Moon, **Yucheng Yin**, Rahul Sharma, Yifei Yuan, Jonathan Spring, and Vyas Sekar. *Accurately Measuring Global Risk of Amplification Attacks using AmpMap*. Technical Report CMU-CyLab-19-004. Carnegie Mellon University, 2020.

- [8] Qi Alfred Chen, **Yucheng Yin**, Yiheng Feng, Z Morley Mao, and Henry X Liu. “Exposing congestion attack on emerging connected vehicle based traffic signal control.” In: *Network and Distributed System Security (NDSS) Symposium*. 2018.
- [9] Qi Alfred Chen, **Yucheng Yin**, Yiheng Feng, Z Morley Mao, and Henry X Liu. “Exposing Falsified Data Attacks on CV-based Traffic Signal Control”. In: *Proceedings of the 26th {USENIX} Security Symposium (Poster)*. 2017.
- [10] Fan Xia, Tian Xia, Li Xiang, Sujuan Ding, Shuo Li, **Yucheng Yin**, Meiqi Xi, Chuanhong Jin, Xuelei Liang, and Youfan Hu. “Carbon Nanotube-Based Flexible Ferroelectric Synaptic Transistors for Neuromorphic Computing”. In: *ACS Applied Materials & Interfaces* 14.26 (2022), pp. 30124–30132.

Honors and Awards

- Carnegie Institute of Technology Dean’s Fellow 2018
- CRA Outstanding Undergraduate Researcher Honorable Mentions 2018
- UM-SJTU Joint Institute Dean’s List FA2014/SU2015/FA2015/SU2016
- University of Michigan Dean’s List, University Honors FA2016/FA2017/WN17
- SJTU Outstanding Scholarship (B) 2015
- Outstanding Assistant Class Advisor (UM-SJTU Joint Institute) 2015
- National Chemistry Contest for High School Students, first prize 2013

Professional Experiences

Research Intern, Bosch Research **Pittsburgh, PA, USA**
Mentor: Jorge Guajardo Merchan *May 2022 - December 2022*

- Synthetic Controller Area Network (CAN) Trace Generation by Deep Generative Models

Graduate Research Assistant, Carnegie Mellon University **Pittsburgh, PA, USA**
Advisor: Vyas Sekar *September 2018 - Present*

- Trustworthy Sketch-based Measurement in Software Switches using SGX
- Measurement of amplification attack risk at a global scale
- Application of Deep Generative Models to Synthetic Network Trace Generation

Research Assistant, University of Michigan **Ann Arbor, MI, USA**
Advisor: Z. Morley Mao, Qi Alfred Chen, Dimitra Panagou *May 2017 - August 2017*

- Security Analysis of CV-based Traffic Control System
- A Simulation Environment for Multi-Agent Trajectory Planning

Invited Talks

- Practical GAN-based Synthetic IP Header Trace Generation using NetShare ([web demo](#))
- FloCon 2023, Santa Fe, NM ([talk slides](#)) January 2023
 - ZeekWeek 2022, Austin, TX ([talk video](#)) October 2022
 - CyLab Partners Conference 2022, Pittsburgh, PA October 2022
 - SIGCOMM 2022, Amsterdam, the Netherlands ([talk video](#)) August 2022
- Trustworthy Sketch-based Measurement in Software Switches using SGX
- CONIX Student-Liaison Seminar, CMU, Pittsburgh, PA October 2019
 - “Tuesday” Networking Seminar, CMU, Pittsburgh, PA January 2019

Service

- Reviewer, *IEEE Transactions on Services Computing* 2024
- Artifact Evaluation Committee (AEC), *ACM SIGCOMM* 2024
- Artifact Evaluation Committee (AEC), *USENIX FAST* 2026

Teaching Experiences

18731 Network Security

Teaching Assistant, CMU

Pittsburgh, PA, USA

Spring 2022, Spring 2023

- Made and graded homework and exam problems. Held weekly office hours.

VE280 Programming and Elementary Data Structures

Teaching Assistant, SJTU

Shanghai, China

Summer 2018

- Gave recitation class. Graded homework. Made exam problems. Held weekly office hours.

Skills

Programming Languages.....

C, C++, Python, Java, MATLAB, Mathematica, PHP, JavaScript, HTML, CSS, SQL, Verilog, Assembly, Bash, Shell, L^AT_EX, etc.

Machine Learning Frameworks and Cloud Services.....

TensorFlow, PyTorch, Keras, AWS, GCP, Azure, OCI, etc.