ZIBIN CHEN

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EDUCATION

Doctor of Philosophy, University of Massachusetts, Amherst — Sep. 2020 - Sep. 2026 (*Excepted*)
Research Area: Computer Network, Intra-domain Routing, Routing Verification.

Master of Science (M.S.E.C.E.), University of Massachusetts, Amherst — Sep. 2018 - Feb. 2021
Thesis: Graph-Algorithm Based Verification on Network Configuration Robustness.
GPA: 3.57/4.00

Bachelor of Engineering, Shandong Normal University, China. — Sep. 2014 - Jun. 2018
Major: Electrical and Information Engineering
Achievement: Outstanding Undergraduate Graduation Thesis

PROJECTS

Verification of Centralized Traffic Engineering Algorithms — Aug. 2022 - Current
Project goal: Verify whether traffic engineering algorithms match the intent.
Current progress: Exploited out-of-box model check engin to drive the verification process.

Synthesizing Network Configuration Update Order with Order Rules — Sep. 2021 - June 2022
Project goal: Explore a safe order of applying changes to routers.
Developed CURSOR reduce the synthesize time by orders of magnitude with the help of symbolic execution.

Privacy-Preserving Policy Verification of Interdomain Routing — Sep. 2020 - Jan. 2022
Developed BiNode and accelerate network verification by one order of magnitude.

Graph-Algorithm-Based Verification on Network Configuration Robustness — Sep. 2019 - Oct. 2020
My master thesis [PDF]

PUBLICATIONS

- **Z. Chen** and L. Gao, "CURSOR: Configuration Update Synthesis Using Order Rules," IEEE INFOCOM 2023 - IEEE Conference on Computer Communications, New York City, NY, USA, 2023, pp. 1-10, doi: 10.1109/INFOCOM53939.2023.10228930.
- X. Shao, **Z. Chen**, D. Holcomb and L. Gao, "Accelerating BGP Configuration Verification Through Reducing Cycles in SMT Constraints," in IEEE/ACM Transactions on Networking, doi: 10.1109/TNET.2022.3176267.

TEACHING

ECE 122: Introduction to Programming for ECE — *TA:* Spring 23
ECE 241: Advanced Programming — *TA:* Fall 21, 22, 23, *TO:* Fall 23
ECE 341: Algorithms for Computer Engineering — *TA:* Spring 20, 22, 23
ECE 665: Algorithms — *TA:* Spring 24

SKILLS

Programming	Skilled in C/C++, Python, and Java.
Software Engineering	Formal methods: Satisfiable Module Theories (SMT), Symbolic Execution, etc.
Language	English (Fluent), Chinese (Native).

EXPERIENCE

Administrative Assistant — Jan 2016 - Aug. 2018
Shandong Normal University — *Shandong, China*

- Participating in the admission process (exam preparation, consultant, etc).
- Supervising the social media team of undergraduate admission office (2018).