

Chengze Du

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EDUCATION

Beijing University of Posts and Telecommunications(BUPT)

Beijing, China

Bachelor of Science in Information Security, School of Cyberspace Security

Sep. 2021 – Present

- Average Scores: 85.24/100 (GPA: 3.47/4)
Major in Computer Science: 87.32 (GPA: 3.62/4)
- The Second Prize Scholarship (**top 15%**)
- Advisor: Shengli Pan

RESEARCH INTERESTS

Network Tomography, Network Available Bandwidth Measurement, Deep Learning for network measurement

PUBLICATIONS & PATENTS

[1]**Chengze Du**, Zhiwei Yu, Xiangyu Wang (2024). Identification of Path Congestion Status from End-to-End Measure-ments Using Deep Spatial-Temporal Learning. *Under Review at Computer Communications*.

[2]**Chengze Du**, Shengli Pan, Chengbo Jiao. (2024). End-to-End Identification of Network Path Congestion Status Based on Adversarial Autoencoders. *Chinese Patent*.(Substantive Examination)

REARCH EXPERIENCE

Undergraduate Research Assistant@BUPT

Beijing, China

Project 1:Identifying Path Congestion Status for Network Tomography with Deep Learning

Nov. 2023 – Present

- Advisors: Prof. Shengli Pan
- **Description:** This project improves network tomography by introducing the concept of Additive Congestion Status to address limitations in accurately identifying congested network links. By integrating Adversarial Autoencoders (AAE) with Long Short-Term Memory (LSTM) networks, our method categorizes and quantifies congestion, leveraging spatio-temporal data to enhance link performance inference and congestion localization, outperforming traditional threshold-based algorithms.
- **Contributions:** Methodology, experiments, data analysis/visualization, writing
- **Achievements:** Authored and submitted the research paper as the first author, and applied for a patent as the primary inventor.

Project 2: Adversarial Network Boolean Tomography

Jun. 2023 – Apr. 2024

- Advisors: Prof. Shengli Pan, Prof. Jinqiao Shi
- **Description:** This project enhances network boolean tomography to detect and localize congestion attacks on network links. By employing multi-timeslot observations and optimizing the F-measure to reduce the False Negative Rate (FNR), our approach improves upon traditional methods, offering more accurate and robust monitoring of network congestion in adversarial environments.
- **Contributions:** Experiments, data analysis/visualization, writing-partly
- **Achievements:** Co-authored and submitted the research paper as the first author in IEEE TNSM.

SKILLS

Languages: Python(Pytorch, Keras, Pandas, SciPy, SkLearn, etc.), C/C++, Bash, Latex

Technologies/Frameworks:: NS-3 Network Simulator, Docker, Server Maintenance (Linux)

MISC

Interests: Passionate about running, with personal bests of 21:21 for 5km and 1:45:28 for the half marathon.