ZHIYU NI

University of Southern California

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EDUCATION

University of Southern California   *Los Angeles, United States*
Ph.D. *Computer Engineering*, Advisor: Pierluigi Nuzzo   *2022.8 - Present*

University of Science and Technology of China (USTC)   *Hefei, China*
B.S. *Physics*, **Outstanding Graduates**   *2018.8 - 2022.6*

PUBLICATIONS

Finding Adversarially Robust Graph Lottery Tickets
Subhajit Dutta Chowdhury*, **Zhiyu Ni***, Qingyuan Peng*, Souvik Kundu[†], Pierluigi Nuzzo*
Submitted to International Conference on Learning Representations (ICLR 2024)

Analyzing Adversarial Vulnerabilities of Graph Lottery Tickets
Subhajit Dutta Chowdhury*, **Zhiyu Ni***, Qingyuan Peng*, Souvik Kundu[†], Pierluigi Nuzzo*
Submitted to International Conference on Acoustics, Speech and Signal Processing (ICASSP 2024)

RESEARCH EXPERIENCE

Finding Adversarial Robust Graph Lottery Tickets   *2022.12 - present*

- Finding an adversarially robust graph sparsification technique to address the problem that the performance of GLTs collapses against structure perturbation poisoning attacks.
- Proposed ARGLTs which are highly sparse yet achieve competitive performance under different structure poisoning attacks by iteratively applying ARGS

Risk-Aware Cost-Effective Design Methodology of Logic Locking   *2022.9 - present*

- Proposing a risk-aware IC locking strategy that can protect integrated circuits (IC) from state-of-art and future attacks.
- Illustrated the effectiveness of our two-level optimization-based methodology on a set of case studies, showing high-security levels at significantly lower risk.

WORK EXPERIENCE

iFlytek   *Hefei, China*
Machine Learning Engineer Intern, *AI Research Institute*   *2022.2 - 2022.6*

- Independently carried out machine translation tasks utilizing seamless bidirectional translation among English, German, Italian, and Portuguese languages.
- Surpassed Google Translation by attaining a superior BLEU score, demonstrating exceptional translation performance.

PROJECTS

Image Segmentation of Seismic Fault

- Employed Convolutional Neural Networks (CNN) for precise fault segmentation in seismic imaging.
- Championship in the final project on Kaggle

SKILLS

Python, PyTorch, Unix shell, LaTeX