Guangxu Yang (杨广绪)

PhD Student in Computer Science

University of Southern California (USC)

Email: guangxuy@usc.edu
Website: guangxu-yang.github.io
Google Scholar: Link
Location: Los Angeles, USA

Education

University of Southern California (USC) — Los Angeles, USA
Ph.D. Student in Computer Science — Aug 2022 – Present
Advisor: Prof. Jiapeng Zhang

University of Electronic Science and Technology of China — Chengdu, China
M.E. in Information and Communication Engineering — Sep 2019 – Jun 2022
B.E. in Network Engineering — Sep 2015 – Jun 2019

Research Interests

- Communication Complexity
- Cryptography

Publications

Note: Authors in theoretical computer science are listed alphabetically.

Conference Proceedings

[1] **A Min-Entropy Approach to Multi-Party Communication Lower Bounds**
Mi-Ying Huang, Xinyu Mao, Shuo Wang, **Guangxu Yang**, and Jiapeng Zhang.
40th Computational Complexity Conference (**CCC 2025**).

[2] **Gadgetless Lifting Beats Round Elimination: Improved Lower Bounds for Pointer Chasing**
Xinyu Mao, **Guangxu Yang**, and Jiapeng Zhang.
16th Innovations in Theoretical Computer Science (**ITCS 2025**).

[3] **Communication Lower Bounds for Collision Problems via Density Increment Arguments**
Guangxu Yang and Jiapeng Zhang.
56th Annual ACM Symposium on Theory of Computing (**STOC 2024**).

[4] **Communication Lower Bounds of Key-Agreement Protocols via Density Increment Arguments**
Mi-Ying Huang, Xinyu Mao, **Guangxu Yang**, and Jiapeng Zhang.
21st Theory of Cryptography Conference (**TCC 2023**).

Preprints & Manuscripts

[5] **Exponential Separation of Quantum and Classical One-Way Numbers-on-Forehead Communication**
Guangxu Yang and Jiapeng Zhang. Manuscript.

[6] **A Lifting Theorem for Hybrid Classical-Quantum Communication Complexity**
Xudong Wu, **Guangxu Yang**, and Penghui Yao. Manuscript.

[7] **Deterministic Lifting Theorems for One-Way Number-on-Forehead Communication**
Guangxu Yang and Jiapeng Zhang. Manuscript.

Teaching Experience

Teaching Assistant at USC

- **CSCI 570**: Analysis of Algorithms   *Spring 2026*
- **CSCI 170**: Discrete Methods in Computer Science   *Spring 2025*
- **CSCI 670**: Advanced Analysis of Algorithms   *Spring 2024*

Professional Service

Conference Reviewer: PODS 2026, CRYPTO 2025, ITCS 2025, COCOON 2024.

Presentations

Conference Talks

Communication Lower Bounds of Key-Agreement Protocols
TCC 2023, Taipei   Nov 2023

Gadgetless Lifting Beats Round Elimination
ITCS 2025, New York   Jan 2025

Invited Seminar & Group Talks

Communication Lower Bounds for Collision Problems via Density Increment Arguments

USC Theory Lunch	Oct 2023
Nanjing University	Dec 2023
Shanghai Jiao Tong University	May 2024
Shanghai University of Finance and Economics	Oct 2025

Deterministic Lifting Theorems for One-Way Number-on-Forehead Communication

USC Theory Lunch	May 2025
University of Science and Technology of China	Nov 2025
SoCal Theory Day in UCSD	Feb 2026
Shanghai Jiao Tong University	March 2026