Guangxu Yang

Curriculum Vitae

yanggx187@gmail.com
guangxu-yang.github.io/

Education

2019.09– Current **M.E. in Information and Communication Engineering**, University of Electronic Science and Technology of China (UESTC), Chengdu, China, GPA: 3.77/4.

2015.09– 2019.06 **B.E. in Network Engineering**, University of Electronic Science and Technology of China (UESTC), Chengdu, China, GPA: 3.89/4, Ranking: 5/147.

Research Interests

- My research interests lie in theoretical computer science, with a particular focus on computational complexity theory. Previously, I have been worked on several topics in communication complexity, such as lifting theorems, information complexity.

Research Experiences

2020.04– Current **Research Internship**, University of Southern California , Online in Zoom.
Advisor: Jiapeng Zhang, Reseach area: communication complexity

Summer 2021 **Research Internship**, Laboratory For Quantum and Theoretical Computer Science, Institute of Computing Technology, Chinese Academy of Sciences.
Advisor: Qian Li, Reseach area: streaming algorithms lower bound

Summer 2019 **Research Internship**, CS Theory Group, Nanjing University.
Advisor: Penghui Yao, Reseach area: analysis of boolean function

Publications

- **Lifting Theorems Meet Information Complexity: Set Disjointness** (In preparation)
- Jack DePascale, Guangxu Yang, Jiapeng Zhang (alphabetical order)
- New proof of $\Omega(n)$ randomized communication lower bound of set disjointness and near optimal lower bounds on deterministic and randomized communication complexity of the k-UDISJ.
- New connections between corruption bound, information complexity and lifting theorems
- **Simulation Methods in Communication Lower Bounds, Revisited** (In preparation)
- Jack DePascale, Guangxu Yang, Jiapeng Zhang (alphabetical order)
- New simulation technique for proving lifting theorems.
- lifting theorems for block sensitivity. $\mathbf{P}^{\mathrm{cc}}(f \circ g^n) = \Omega(\log q \cdot \mathrm{bs}(f))$ and $\mathbf{BPP}^{\mathrm{cc}}(f \circ g^n) = \Omega(\log q \cdot \mathrm{bs}(f))$ for any for all gadgets $g : [q] \times [q] \to \{0,1\}$ with $q > 2$ that have exponentially-small discrepancy.

Languages

- **Chinese:** Mother tongue
- **English:** TOEFL iBT: (Reading 26 , Listening 27, Speaking 17, Writing 20)