Guangxu Yang

Curriculum Vitae

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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 Computation 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 proofs 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.
- **Simulation Methods in Communication Lower Bounds, Revisited** (In preparation)
  Jack DePascale, Guangxu Yang, Jiapeng Zhang (alphabetical order)
- Results of lifting theorems for block sensitivity via a new simulation technique. $\mathbf{P}^{\mathrm{cc}}(f \circ g^n) = \Omega(\mathrm{bs}(f) \cdot \log q)$ and $\mathrm{Corr}_\epsilon(f \circ g^n) = \Omega\left(\mathrm{bs}(f) \cdot \log q\right)$ for any gadgets $g : [q] \times [q] \to \{0,1\}$ with $q > 2$ that have exponentially-small discrepancy and a direct sum theorem $\mathbf{IC}^{\mathrm{ext}}(f \circ g^n) = \Omega(\mathrm{bs}(f) \cdot \mathbf{CIC}(g))$.

Languages

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