

MRINALKANTI GHOSH

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- Research Interests** Computational Complexity Theory, Approximation Algorithms, Hardness of Approximation, Information Theory and Randomness.
- Timeline**
- ◇ 2013 - : PhD Candidate in Computer Science at *Toyota Technological Institute at Chicago*
Adviser: *Dr. Madhur Tulsiani*
 - ◇ 2012 - 13: Research Assistant at *Indian Institute of Technology* under *Prof. Manindra Agrawal*
 - ◇ 2010 - 12: M.Tech in Computer Science and Engineering at *Indian Institute of Technology Kanpur* under *Prof. Satyadev Nandakumar*
 - ◇ 2006 - 10: B.Tech in Computer Science and Engineering from collage *Institute of Engineering and Management* under *West Bengal University of Technology*
- B.Tech Project**
- Visual Secret-sharing Scheme for Multi-secret General Access Structure:**
- This was done under supervision of Avishek Adhikari of Calcutta University, Department of Pure Math.
 - In multi-secret visual secret sharing, there are n secrets to be shared among m participants. In order to recover the secret, dealer prints shares on transparent sheets, stacks them together and sees through light.
 - In general access structure, as opposed to threshold scheme, secret holder explicitly specify permissible sets for each secrets. We developed a visual secret-sharing scheme for this problem.
- M.Tech Thesis**
- Predictive Complexity and Generalized Entropy Rate of Stationary Ergodic Processes:**
- This was under supervision of Satyadev Nandakumar of IIT Kanpur CSE Dept.
 - We extend the notion of generalised entropy for the case of Stationary Ergodic games.
 - We show a Shannon-McMillan-Breimann theorem for Generalized Entropy for Stationary Ergodic games.
 - We show that rate of Predictive complexity converges to Generalized Entropy almost everywhere.
- Publications**
- *Vijay Bhattiprolu, Mrinalkanti Ghosh, Venkatesan Guruswami, Euiwoong Lee, and Madhur Tulsiani* **Weak Decoupling, Polynomial Folds, and Approximate Optimization over the Sphere**, 58th Annual IEEE Symposium on Foundations of Computer Science, 2017
 - *Mrinalkanti Ghosh, Madhur Tulsiani*, **From Weak to Strong LP Gaps for all CSPs**, 32nd Computational Complexity Conference, 2017, [url](#)
 - *Mrinalkanti Ghosh, Satyadev Nandakumar*, **Predictive Complexity and Generalized Entropy Rate of Stationary Ergodic Processes**, 23rd Conference on Algorithmic Learning Theory, 2012, [url](#)
 - *Mrinalkanti Ghosh, Satyadev Nandakumar, Atanu Pal* **Ornstein Isomorphism and Algorithmic Randomness**, 9th International Conference on Computability and Randomness, Singapore, 2014
<http://arxiv.org/abs/1404.0766>