Madhusudhan Pittu

Curriculum Vitae

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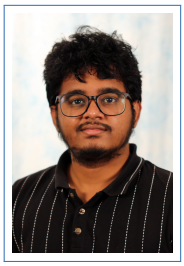

Interests

I am broadliy interested in Theoretical Computer Science. My primary areas of interest are Algorithms, Combinatorics, Optimization and Complexity Theory.

Education

2021– now **Ph.D. in Computer Science**, *Carnegie Mellon University*, Pittsburgh.
Advisor: Anupam Gupta

2017–2021 **B.Tech. in Computer Science and Engineering**, *Indian Institute of Technology Kharagpur*, India, GPA: 9.3/10 .
Advisor: Palash Dey

Publication

The Price of Explainability for Clustering.
with Anupam Gupta, Ola Svensson and Rachel Yuan
Arxiv, 2023

Efficient Determinant Maximization for All Matroids.
with Adam Brown, Aditi Laddha and Mohit Singh
Arxiv, 2022

Determinant Maximization via Matroid Intersection Algorithms.
with Adam Brown, Aditi Laddha, Mohit Singh and Prasad Tetali.
To appear at IEEE Symposium on Foundations of Computer Science (**FOCS**), 2022

A 3-Approximation Algorithm for Maximum Independent Set of Rectangles.
with Waldo Gálvez, Arindam Khan, Mathieu Mari, Tobias Mömke and Andreas Wiese.
Symposium on Discrete Algorithms (**SODA**), 2022

A $(2+\varepsilon)$-Approximation Algorithm for Maximum Independent Set of Rectangles.
with Waldo Gálvez, Arindam Khan, Mathieu Mari, Tobias Mömke and Andreas Wiese.
Arxiv, 2021

On Guillotine Separability of Squares and Rectangles.
with Arindam Khan.
APPROX-RANDOM, 2020

Visits/Internships

Summer 2019 **Narendra Internship**, *Indian Institute of Science*, Bengaluru.
Host: Arindam Khan

Summer 2020 **Visiting Student Research Internship (Remotely)**, *Georgia Tech*, Atlanta, USA.
Host: Prasad Tetali and Mohit Singh

Fall 2022 **Visiting Graduate Student**, *Simons Institute for the Theory of Computing*.
Data-Driven Decision Processes program

Awards and Achievements

- **IITKGP Foundation-USA International Internship Award**, 2020
- Represented India at the 57^{th} **International Mathematical Olympiad (IMO)** held in Hong Kong and secured **Bronze Medal**, 2016.
- **Infosys award** for excellent performance in International Olympiads, 2016
- **Best Solution Award** in IMO training camp 2015

Talks/Presentations

Efficient Determinant Maximization for All Matroids.
IISc-MSR seminar at CSA department IISc, Bengaluru, 2022

A 3-Approximation Algorithm for Maximum Independent Set of Rectangles.
Symposium on Discrete Algorithms (**SODA**) virtual conference, 2022

On Guillotine Separability of Squares and Rectangles.
Highlights of Algorithms (**HALG**) virtual conference, 2020

On Guillotine Separability of Squares and Rectangles.
APPROX-RANDOM virtual conference, 2020