

Sai Sandeep

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Professional Experience

- May 2023—**Quantitative Researcher**, *Global Quantitative Strategies (GQS), Citadel*.
Present Built a multi-period, planning-based portfolio optimization system. Applied reinforcement learning and control-theoretic techniques to design sequential decision-making algorithms under uncertainty. Developed evaluation frameworks to test strategies across different market conditions and enable rapid experimentation for algorithm improvements.
- 2022–2023 **Postdoctoral Researcher, EECS**, *University of California, Berkeley*.
Research in theoretical optimization with applications to learning theory and robust ML.
- 2017–2018 **Research Fellow, Algorithms Group**, *Microsoft Research India*.
Developed novel clustering and online matching algorithms, resulting in publications at top-tier computer science conferences.

Education

- 2018–2022 **Ph.D. in Computer Science**, *Carnegie Mellon University*.
Advisor: Venkatesan Guruswami. Research focused on theoretical computer science and machine learning.
- 2013–2017 **B.Tech. in Computer Science and Engineering (Honors)**, *Indian Institute of Technology (IIT) Bombay*.

Selected Publications

* Full list available at [Google Scholar](https://scholar.google.com/citations?user=...)

- 2023 SDPs and Robust Satisfiability of Promise CSP, STOC 2023
Designed algorithms for robust constraint satisfaction using semidefinite programming techniques.
- 2022 Almost Optimal Inapproximability of Multidimensional Packing Problems, FOCS 2022
Resolved long-standing open problems in multidimensional optimization.
- 2018 Constant Approximation for k-Median/Mean with Outliers via Iterative Rounding, STOC 2018
Developed clustering algorithm with provable guarantees robust to outlier data.

Skills

- Programming Python, C++, Lean
Frameworks PyTorch, JAX, CVXPY

Awards & Recognition

- 2021 Microsoft Research Ph.D. Fellowship Nominee (among 3 students selected by CMU CS Department)
- 2016–2017 ACM International Collegiate Programming Contest World Finals - 34th place (2017), Honorable Mention (2016)
- 2013 All India Rank 1 in IIT-JEE (1.5M+ candidates)

References

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