Siddhartha Jain

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Education

2022 - present	**PhD. in Computer Science** The University of Texas at Austin (UT Austin)
2020 - 2022	**MSc. in Computer Science** École Polytechnique Fédérale de Lausanne (EPFL)
2016 - 2020	**BTech. in Computer Science & Applied Mathematics** Indraprastha Institute of Information Technology (IIITD)

Publications

FOCS'21
(Invited to Special
Issue)

Unambiguous DNFs and Alon-Saks-Seymour
with Mika Göös (EPFL), Shalev Ben-David (UWaterloo), Robin Kothari (Microsoft Research), Kaspars Balodis (ULatvia)

We get a near-optimal solution to the Alon–Saks–Seymour problem in graph theory (posed in 1991).

CCC'22

Further Collapses in TFNP
with Mika Göös, Gilbert Maystre (EPFL), Alexandros Hollender (Oxford), Robert Robere, Ran Tao, William Pires (McGill)

We show the surprising collapse: $\mathrm{EoPL} = \mathrm{PLS} \cap \mathrm{PPAD}$.

FOCS'22

Separations in Proof Complexity and TFNP
with Mika Göös, Gilbert Maystre (EPFL), Alexandros Hollender (Oxford), Robert Robere, Ran Tao, William Pires (McGill)

We show new characterisations for TFNP subclasses, and employ them to complete the picture of black-box relationships for classes defined in the 90's.

RANDOM'22

Communication Complexity of Collision
with Mika Göös (EPFL)

We prove a polynomial randomised communication lower bound for a natural two party version of the Collision problem: decide whether a given function is 2-1 or 1-1.

Projects

Unsupervised Preprocessing for Clustering
with Shay Ben-Elazar (Microsoft Research), Vincent Cohen-Addad (Google Research), Karthik CS (Rutgers)

Working on practical preprocessing algorithms inspired by error-correcting codes.

Probabilistic & Interactive Proofs
with Alessandro Chiesa (UC Berkeley, EPFL)

Semester project which involved studying both classical and modern results in Probabilistic Proofs.

Employment

2022 - present	**Graduate Research Assistant | UT Austin** Working at QIC with Scott Aaronson.
2021 - 2022	**MSc. Research Scholar | EPFL** Part of the Research Scholar program by the IC department, working with Mika Göös (EPFL).
2019	**Research Intern | ITCS Shanghai** Summer intern with Bundit Laekhanukit (SUFE).

Honors & Awards

2021	Paper invited to SICOMP Special Issue of FOCS 2021
2021	MSc. Research Scholar (EPFL)
2020	Graduation with Honors (IIITD)
2019	Scholarship: Quantum Computation Winter school (IIAS)
2019	Scholarship: Data Science Summer school (IISc)
2019	Dean's list (IIITD)

Academic

Service (external reviewer)	ICALP'21, ICALP'22, FSTTCS'22, ITCS'23
Coursework (EPFL)	Advanced Algorithms (6/6), Probabilistic Methods in Combinatorics (5.75/6), Computational Complexity (6/6), Information Theory & Coding (6/6)
Coursework (IIITD)	Modern Algorithm Design (A), Randomised Algorithms (A-), Combinatorics and Its Applications (A), Complexity Theory (A), Theory of Computation (A), Discrete Structures (A), Abstract Algebra (A), Number Theory (A+)

Skills

Languages	**Hindi:**	native
	English:	fluent (written and spoken)
	French:	beginner
Programming	Python, LaTeX, Java (intermediate), scala (intermediate)	