

Deeparnab Chakrabarty

Curriculum Vitae, October 2023

Associate Professor
Department of Computer Science
Dartmouth College

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Research Interests

- Interplay between **Algorithms** and **Optimization**
- Specific Expertise: Approximation Algorithms, Sublinear Algorithms

Education

Ph.D. Georgia Institute of Technology, Atlanta. August 2008.
- *Field:* ACO (Algorithms, Combinatorics and Optimization).
Interdisciplinary program in Computer Science, Mathematics, and Engineering
- *Dissertation:* Algorithmic Aspects of Connectivity, Allocation and Design.
Advisor: Vijay V. Vazirani

B.Tech Indian Institute of Technology (IIT), Bombay. August 2003.
- *Field:* Computer Science and Engineering.

Professional Experience

- Associate Professor (with tenure), Dartmouth College, Hanover, NH, July 2021 –
- Assistant Professor, Dartmouth College, Hanover, NH, Mar 2017 – June 2021
- Researcher, Microsoft Research, India, Oct 2011 – Mar 2017
- Post-doctoral Researcher, University of Pennsylvania, Feb 2010 – Jul 2011
- Post-doctoral Fellow, University of Waterloo, Sep 2008 – Feb 2010.

Research Support

- *C. Troy Shaver 1969 Fellowship*, awarded by Dartmouth Arts & Science Faculty to newly tenured faculty in recognition of their scholarship.
- NSF Award 2041920, *CAREER: Modern Algorithm Design via the Optimization Lens*.
- NSF Award 1813165, *AF: A Theory of High Dimensional Property Testing*.
- *Walter and Constance Burke Research Initiation Award*, awarded to starting faculty in Dartmouth Arts & Science.

Published Work

A chronological list. Most journal papers have preliminary versions in conferences proceedings.

- (1) D. Chakrabarty, A. Graur, H. Jiang, A. Sidford.
Parallel Submodular Function Minimization.
Proc., Neural Information Processing Systems (NeurIPS), 2023.
Spotlight presentation.
- (2) H. Black, D. Chakrabarty, C. Seshadhri.
A $d^{1/2+o(1)}$ Monotonicity Tester for Boolean Functions on d -Dimensional Hypergrids.
Proc., Foundations of Computer Science (FOCS), 2023.
- (3) H. Black, D. Chakrabarty, C. Seshadhri.
Directed Isoperimetric Theorems for Boolean Functions on the Hypergrid and an $\tilde{O}(n\sqrt{d})$ Monotonicity Tester.
Proc., ACM Symp. on the Theory of Computing (STOC), 2023.
- (4) D. Chakrabarty, Yu Chen, S. Khanna.
A Polynomial Lower Bound on the Number of Rounds for Parallel Submodular Function Minimization and Matroid Intersection.
SIAM Journal on Computing, 52(1): 38-66 (2023)
Prelim Version: Proc., Foundations of Computer Science (FOCS), 2021.
Invited paper.
- (5) D. Chakrabarty, M. Negahbani.
Robust k -Center with Two Types of Radii.
Math. Programming, Math. Program. 197(2): 991-1007 (2023)
Prelim version in Proc., Conf. on Integer Programming and Comb. Optimization (IPCO), 2021.
- (6) D. Chakrabarty, H. Liao.
A Query Algorithm for Learning a Spanning Forest in Weighted Undirected Graphs.
Proc., Algorithmic Learning Theory (ALT), 2023.
- (7) D. Chakrabarty, A. Graur, H. Jiang, A. Sidford.
Improved Lower Bounds for Submodular Function Minimization.
Proc., Foundations of Computer Science (FOCS), 2022.
- (8) D. Chakrabarty, M. Negahbani, A. Sarkar
Approximation Algorithms for Continuous Clustering and Facility Location Problems. Proc., European Symposium on Algorithms (ESA), 2022.
- (9) D. Chakrabarty, M. Negahbani.
Better Algorithms for Individual Fair Clustering.
Proc., Neural Information Processing Systems (NeurIPS), 2021.
- (10) S. Assadi, D. Chakrabarty, S. Khanna.
Graph Connectivity and Single Element Recovery via Linear and OR Queries.
Proc., European Symposium on Algorithms (ESA), 2021.

- (11) T. Bajpai, D. Chakrabarty, C. Chekuri, M. Negahbani.
Revisiting Priority k -Center: Fairness and Outliers.
Proc., Int. Coll. on Algorithms, Languages, and Programming (ICALP), 2021.
- (12) D. Chakrabarty, S. Khanna.
Better and Simpler Error Analysis of the Sinkhorn-Knopp Algorithm for Matrix Scaling.
Math. Programming, 188(1): 395-407 (2021)
Preliminary version: Proc., Symposium on Simple Algorithms (SOSA), 2018.
- (13) R. Baleshzar, D. Chakrabarty, R. K. S. Pallavoor, S. Raskhodnikova, C. Seshadhri.
Optimal Unateness Testers for Real-Valued Functions: Adaptivity Helps.
Theory of Computing, 16(3): 1–36, 2020.
Preliminary version: Proc., Int. Coll. on Algorithms, Languages, and Programming (ICALP), 2017.
- (14) D. Chakrabarty, P. Goyal, R. Krishnaswamy.
The Non-uniform k -center Problem.
ACM Trans. Algorithms (TALG), 16(4): 1–19. 2020.
Preliminary version: Proc., Int. Coll. on Algorithms, Languages, and Programming (ICALP), 2016.
- (15) S. Bhattacharya, D. Chakrabarty, M. Henzinger.
Deterministic Dynamic Matching in $O(1)$ Update Time.
Algorithmica 82(4): 1057-1080, 2020.
Preliminary version: Proc., Conf. on Integer Programming and Comb. Optimization (IPCO), 2017.
- (16) H. Black, D. Chakrabarty, C. Seshadhri.
Domain Reduction for Monotonicity Testing: A $o(d)$ Tester for Boolean Functions in d -Dimensions.
Proc., ACM-SIAM Symp. on Discrete Algorithms (SODA), 2020.
- (17) D. Chakrabarty, P. de Supinski.
On a Decentralized $(\Delta + 1)$ -Graph Coloring Algorithm.
Proc., SIAM Symposium on Simplicity in Algorithms (SOSA), 2020.
- (18) D. Chakrabarty, M. Negahbani.
Generalized Center Problems with Outliers.
ACM Trans. Algorithms (TALG) 15(3):41:1–41:14, 2019.
Preliminary version: Proc., Int. Coll. on Algorithms, Languages, and Programming (ICALP), 2018.
- (19) S. Bera, D. Chakrabarty, N. Flores, M. Negahbani.
Fair Algorithms for Clustering.
Proc., Advances in Neural Information Processing Systems (NeurIPS), 2019.
- (20) D. Chakrabarty, Y. T. Lee, A. Sidford, S. Singla, S. Wong.
Faster Matroid Intersection.
Proc., IEEE Conf. on Foundations of Comp. Sci. (FOCS), 2019.
Invited to “Highlights of Algorithms” conference, 2020.
- (21) D. Chakrabarty, C. Swamy.
Simpler and Better Algorithms for Minimum-Norm Load Balancing.
Proc., Ann. European Symposium on Algorithms (ESA) 2019.

- (22) D. Chakrabarty, C. Swamy.
Approximation Algorithms for Minimum Norm and Ordered Optimization Problems.
Proc., ACM Symp. on the Theory of Computing (STOC), 2019.
- (23) D. Chakrabarty, C. Seshadhri.
Adaptive Boolean Monotonicity Testing in Total Influence Time.
Proc., Innovations in Theoretical Computer Science conference (ITCS), 2019.
- (24) D. Chakrabarty, A. Ene, R. Krishnaswamy, D. Panigrahi.
Online Buy-at-Bulk Network Design.
SIAM Journal on Computing. 47(4): 1505–1528, 2018.
Preliminary version: Proc., IEEE Conf. on Foundations of Comp. Sci. (FOCS), 2015.
- (25) D. Chakrabarty, C. Swamy.
Interpolating between k -Median and k -Center: Approximation Algorithms for Ordered k -Median.
Proc., Int. Coll. on Algorithms, Languages, and Programming (ICALP), 2018.
- (26) S. Bhattacharya, D. Chakrabarty, M. Henzinger, D. Nanongkai.
Dynamic Algorithms for Graph Coloring.
Proc., ACM-SIAM Symp. on Discrete Algorithms (SODA), 2018.
- (27) H. Black, D. Chakrabarty, C. Seshadhri.
A $o(d)$ polylog n Monotonicity Tester for Boolean Functions over the Hypergrid $[n]^d$.
Proc., ACM-SIAM Symp. on Discrete Algorithms (SODA), 2018.
- (28) D. Chakrabarty, K. Dixit, M. Jha, C. Seshadhri.
Property Testing on Product Distributions: Optimal Testers for Bounded Derivative Properties.
ACM Trans. Algorithms (TALG) 13(2):20:1–20:30, 2017.
Preliminary version: Proc., ACM-SIAM Symp. on Discrete Algorithms (SODA), 2016.
Invited Paper.
- (29) D. Chakrabarty, R. Krishnaswamy, A. Kumar.
The Heterogeneous Capacitated k -Center Problem.
Proc., Conf. on Integer Programming and Comb. Optimization (IPCO), 2017.
- (30) D. Chakrabarty, Y. T. Lee, A. Sidford, S. Wong.
Subquadratic Submodular Function Minimization.
Proc., ACM Symp. on the Theory of Computing (STOC), 2017.
- (31) D. Chakrabarty, C. Swamy.
Facility Location with Client Latencies: Linear Programming Based Techniques for Minimum Latency Problems.
Mathematics of Operations Research, 41(3): 865– 883, 2016.
Preliminary version: Proc., Conf. on Integer Programming and Comb. Optimization (IPCO), 2011.
- (32) D. Chakrabarty, S. Kannan, K. Tian.
Detecting Character Dependencies in Stochastic Models of Evolution.
Journal of Computational Biology, 23(3): 180 – 191, 2016.

- (33) D. Chakrabarty, C. Seshadhri.
A $o(n)$ Monotonicity Tester for Boolean Functions over the Hypercube.
 SIAM Journal on Computing, 45(2): 461 – 472, 2016.
 Preliminary version: Proc., ACM Symp. on the Theory of Computing (STOC), 2013.
Invited Paper.
- (34) A. Bhartia, D. Chakrabarty, K. Chintalapudi, L. Qiu, B. Radunovic, R. Ramjee.
IQ-Hopping: Distributed Oblivious Channel Selection for Wireless Networks.
 Proc., ACM Int. Symp. on Mobile and Ad-Hoc Networking and Computing (MOBIHOC), 2016.
- (35) D. Chakrabarty, Z. Huang.
Recognizing Coverage Functions.
 SIAM Journal on Discrete Math 29(3): 1585 – 1599, 2015.
 Preliminary version: Proc., Int. Coll. on Algorithms, Languages, and Programming (ICALP), 2012.
- (36) D. Chakrabarty, C. Chekuri, S. Khanna, N. Korula.
Approximability of Capacitated Network Design.
 Algorithmica, 72(2): 493 – 514, 2015.
 Preliminary version: Proc., Conf. on Integer Programming and Comb. Optimization (IPCO), 2011.
- (37) D. Chakrabarty, S. Khanna, S. Li.
On $(1, \epsilon)$ -restricted assignment makespan minimization.
 Proc., ACM-SIAM Symp. on Discrete Algorithms (SODA), 2015.
- (38) D. Chakrabarty, G. Goel, V. V. Vazirani, L. Wang, C. Yu.
Submodularity Helps in Nash and Nonsymmetric Bargaining Games.
 SIAM Journal on Discrete Math, 28(1), 99–115, 2014.
- (39) D. Chakrabarty, C. Seshadhri.
An Optimal Lower Bound for Monotonicity Testing over Hypergrids.
 Theory of Computing 10: 453 – 464, 2014. Preliminary version: Proc., Int. Workshop on Randomization in Computation (RANDOM), 2013.
- (40) D. Chakrabarty, P. Jain, P. Kothari.
Provable Submodular Minimization using Wolfe’s Algorithm.
 Advances in Neural Information Processing Systems (NeurIPS), 2014.
Oral presentation.
- (41) D. Chakrabarty, C. Swamy.
Welfare maximization and truthfulness in mechanism design with ordinal preferences.
 Proc., Innovations in Theoretical Computer Science conference (ITCS), 2014.
- (42) D. Chakrabarty, J. Könemann, and D. Pritchard.
Hypergraphic LP Relaxations for Steiner Trees.
 SIAM Journal on Discrete Math, 27(1), 507–533, 2013.
 Preliminary version: Proc., Conf. on Integer Programming and Comb. Optimization (IPCO), 2010.
- (43) D. Chakrabarty, R. Krishnaswamy, S. Li, S. Narayanan.
Capacitated Network Design on Undirected Graphs.

- Proc., Int. Wrkshp. on Approx. Alg. for Comb. Opt. Prob. (APPROX), 2013.
- (44) D. Chakrabarty, D. Charles, M. Chickering, N. Devanur, L. Wang.
Budget Smoothing for Internet Ad Auctions: A Game Theoretic Approach.
Proc., ACM Conference on Economics and Computation (EC), 2013.
- (45) D. Chakrabarty, C. Seshadhri.
Optimal bounds for monotonicity and Lipschitz testing over hypercubes and hypergrids.
Proc., ACM Symp. on the Theory of Computing (STOC), 2013.
- (46) E. Anshelevich, D. Chakrabarty, A. Hate, C. Swamy.
Approximations for the FireFighter Problem: Computing Cuts over Time.
Algorithmica, 62(1-2), 520–536, 2012.
- (47) D. Pritchard and D. Chakrabarty.
Approximability of Sparse Integer Programs.
Algorithmica, 61(1), 75–93, 2011.
- (48) D. Chakrabarty, N. R. Devanur, V. V. Vazirani.
New Geometry-Inspired Relaxations and Algorithms for the Metric Steiner Tree Problem.
Math. Programming, 130(1), 1–32, 2011.
Preliminary version: Proc., Conf. on Integer Programming and Comb. Optimization (IPCO), 2008.
- (49) A. Bhargat, D. Chakrabarty, S. Khanna.
Social Welfare in One-Sided Matching Markets without Money.
Proc., Int. Wrkshp. on Approx. Alg. for Comb. Opt. Prob. (APPROX), 2011
- (50) A. Bhargat, D. Chakrabarty, S. Khanna.
Optimal Lower Bounds for Universal and Differentially Private Steiner Trees and TSP.
Proc., Int. Wrkshp. on Approx. Alg. for Comb. Opt. Prob. (APPROX), 2011
- (51) D. Chakrabarty, J. Könemann, and D. Pritchard.
Integrality Gap of the Hypergraphic Relaxation of Steiner Trees: a short proof of a 1.55 upper bound.
Operations Research Letters, 38(6), 567–570, 2010.
- (52) D. Chakrabarty, N. R. Devanur, V. V. Vazirani.
Rationality and Strongly Polynomial Solvability of Eisenberg-Gale Markets with Two Agents.
SIAM Journal on Discrete Math, 24(3), 1117–1136, 2010.
- (53) D. Chakrabarty, A. Mehta, V. V. Vazirani.
Design is as easy as Optimization.
SIAM Journal on Discrete Math, 24(1), 270–286, 2010.
Preliminary version: Proc., Int. Coll. on Algorithms, Languages, and Programming (ICALP), 2006.
- (54) D. Chakrabarty, G. Goel.
On the Approximability of Budgeted Allocations and Improved Lower Bounds for Submodular Welfare Maximization and GAP.
SIAM Journal on Computing, 39(6), 2010.
Preliminary version: Proc., IEEE Conf. on Foundations of Comp. Sci. (FOCS), 2008.

- (55) B. Benson, D. Chakrabarty, P. Tetali.
G-parking functions, Acyclic Orientations, and Spanning Trees.
Discrete Math, 310(8), 1340–1353, 2010.
- (56) D. Chakrabarty, E. Grant, J. Könemann.
On Column-restricted and Priority Covering Integer Programs.
Proc., Conf. on Integer Programming and Comb. Optimization (IPCO), 2010.
- (57) D. Chakrabarty, N. Devanur.
On Competitiveness in Uniform Utility Allocation Markets.
Operations Research Letters, 37(3), 155–158, 2009.
- (58) D. Chakrabarty, J. Chuzhoy, S. Khanna.
On Allocating Goods to Maximize Fairness.
Proc., IEEE Conf. on Foundations of Comp. Sci. (FOCS), 2009.
- (59) D. Chakrabarty, Y. Zhou, R. Lukose.
Budget Constrained Bidding in Keyword Auctions and Online Knapsack Problems.
Proc., Workshop on Internet and Network Economics (WINE), 2008.
- (60) D. Chakrabarty, A. Mehta, V. Nagarajan, V. V. Vazirani.
Fairness and Optimality in Congestion Games.
Proc., ACM Conference on Economics and Computation (EC), 2005.

Other Works

Reference Works

- (a) D. Chakrabarty. *Max-Min Allocation*. Encyclopedia of Algorithms, 2015.
- (b) D. Chakrabarty. *Monotonicity Testing*. Encyclopedia of Algorithms, 2015.

Patents

- (a) *Dynamic Channel Selection in a Wireless Communication Network*.
Pub: 9,918,242, USPTO (Grant). March 13, 2018.
- (b) *Equilibrium Allocation for Budget Smoothing in Search Advertising*.
Pub: 20140074586, USPTO (Application). March 13, 2014.
- (c) *Bidding in Online Auctions*.
Pub: 8,046,294, USPTO (Grant). October 25, 2011.

Invited Talks

A selected list of public talks in the last few years.

- *Round-or-Cut Technique for designing Approximation Algorithms for Clustering Problems*
Banff International Research Center. September 2023.
- *Parallel Submodular Function Minimization*
Spotlight Speaker, Workshop on Local Algorithms, MIT. August 2023.
- *Round-or-Cut Technique for designing Approximation Algorithms for Clustering Problems*
Bangalore Theory Seminar Seires, IISc Bangalore. July 2023.

- *Round-or-Cut Technique for designing Approximation Algorithms for Clustering Problems*
Workshop on Recent Developments in Clustering, SoCG @UT Dallas. June 2023.
- *Fairness in Clustering: A Survey* (via Zoom)
Morgan Stanley Machine Learning Seminar, Zoom. January 2023.
- *On a generalization of a theorem of Lehman and Ron*
Dartmouth Combinatorics Seminar, Hanover, NH. September 2022.
- *Graph Connectivity and Single Element Recovery via Linear and OR Measurements: Rounds v Query Trade-offs*
FODSI Sublinear Algorithms Workshop, MIT. Cambridge, MA. August 2022.
- *A Polynomial Lower Bound on the Number of Rounds for Parallel Submodular Function Minimization.*
USC Probability Seminar, October 2021. (via Zoom)
- *A Polynomial Lower Bound on the Number of Rounds for Parallel Submodular Function Minimization.*
Bonn, October 2021.
- *Approximation Algorithms for Minimum Norm and Ordered Optimization Problems.*
CanADAM, May 2021. (via Zoom)
- *Graph Connectivity and Single Element Recovery via Linear and OR Measurements: Rounds v Query Trade-offs*
Rutgers/DIMACS Theory Seminar, Rutgers University. October 2020. (via Zoom)
- *Approximation Algorithms for Minimum Norm and Ordered Optimization Problems.*
ACO Colloquium, Georgia Tech. October 2020. (via Zoom)
- *Faster Matroid Intersection.*
Invited Speaker, Highlights of Algorithms, Zurich. August 2020. (via Zoom)
- *Approximation Algorithms for Minimum Norm and Ordered Optimization Problems.*
Algorithms Seminar, Microsoft Research, Redmond. November 2019.
- *Approximation Algorithms for Minimum Norm and Ordered Optimization Problems.*
Bellairs Workshop on Algorithms and Optimization, Bridgetown, Barbados. April 2019.
- *Approximation Algorithms for Minimum Norm and Ordered Optimization Problems.*
Algorithms Seminar, Microsoft Research, Bangalore. December 2018.
- *Ordered Optimization Problems.*
Google Algorithms Talk Series. Google, NYC. August 2018.
- *Generalized Center Problems with Outliers.*
Combinatorial Optimization Workshop, Hausdorff Research Institute, Bonn. August 2018.
- *Generalized Center Problems with Outliers.*
International Symposium on Mathematical Programming, Bordeaux, July 2018.
- *Generalized Center Problems with Outliers.*
Workshop on Flexible Network Design, Washington DC, May 2018.

Teaching

	Deeparnab	Department	College
COSC 34, Spring 23 (27 Students)	1.1	2.0	1.7
<i>Randomized Algorithms.</i>	1.0	2.0	1.7
COSC 234, Spring 23 (17 Students)	1.1	2.0	1.7
<i>Randomized Algorithms.</i>	1.0	2.0	1.7
COSC 30, Winter 23 (54 Students)	1.4	1.8	1.8
<i>Discrete Math in Comp. Sci.</i>	1.1	1.7	1.7
COSC 31, Fall 22 (56 Students)	1.9	1.6	1.8
<i>Algorithms</i>	1.3	1.5	1.7
COSC 31, Spring 22 (55 Students)	1.5	1.7	1.7
<i>Algorithms</i>	1.2	1.7	1.6
COSC 36, Winter 22 (13 Students)	1.5	1.8	1.7
<i>Approximation Algorithms</i>	1.5	1.6	1.6
COSC 236, Winter 22 (13 Students)	1.5	1.8	1.7
<i>Approximation Algorithms</i>	1.6	1.6	1.7
COSC 30, Summer 21 (55 Students)	1.2	2.0	1.8
<i>Discrete Math in Comp. Sci.</i>	1.2	2.0	1.7
COSC 49, Spring 21 (15 Students)	1.1	1.6	1.7
<i>Randomized Algorithms</i>	1.1	1.5	1.6
COSC 249, Spring 21 (16 Students)	1.6	1.6	1.8
<i>Randomized Algorithms</i>	1.5	1.5	1.6
COSC 31, Winter 21 (85 Students)	1.4	1.6	1.7
<i>Algorithms</i>	1.3	1.5	1.6
COSC 31, Spring 20 (86 Students)	1.4	1.6	1.8
<i>Algorithms</i>	1.2	1.5	1.6
COSC 30, Winter 20 (71 Students)	1.4	1.6	1.8
<i>Discrete Math in Comp. Sci.</i>	1.1	1.5	1.7
COSC 31, Spring 19 (55 Students)	1.7	1.9	1.9
<i>Algorithms</i>	1.3	1.8	1.8
COSC 49, Fall 18 (11 Students)	1.4	1.9	1.8
<i>21st Century Algorithms</i>	1.0	1.8	1.6
COSC 31, Spring 18 (47 Students)	1.7	2.0	1.9
<i>Algorithms</i>	1.4	1.9	1.8
COSC 31, Winter 18 (22 Students)	1.4	2.0	1.9
<i>Algorithms</i>	1.3	2.0	1.8

Table 1: Courses taught at Dartmouth in the last few years. Courses beginning 1xx or 2xx are graduate courses and are co-taught with the undergraduate versions. Course Assessment summaries (course quality and teaching effectiveness) are also noted. The scores are means with 1 being excellent and 5 being poor. Department and college averages also provided.

Advising

Advising at Dartmouth

- Ankita Sarkar. Graduate Student. March 2021 - present.
- Hang Liao. Graduate Student. September 2020 - present.
- Maryam Negahbani. Graduate Student. September 2017 - June 2022.
Thesis: *Approximation Algorithms for Clustering: Fairness and Outlier Detection*.
First Position after Dartmouth: Katana Graph.
- Emily Gao '24. Undergraduate Student. Sept 2022 - .
- Luc Cote '23. Undergraduate Student. Sept 2022 - June 2023.
Thesis: *Novel Generalizations and Algorithms for the Max-k-Coverage Problem*. (High Honors, 1st Prize Winner for Neukom Outstanding Undergraduate Research in Computer Science)
- Eliza Crocker '23. Undergraduate Student. Sept 2022 - June 2023
Thesis: *An Empirical Study of Locality-Sensitive Hashing to Approximate the Minimum Spanning Tree*. (Honors Thesis)
- Anna E. Dodson '20. Undergraduate Student. January 2020 - June 2020.
Thesis: *Towards Ryser's Conjecture: Bounds on the Cardinality of Partitioned Intersecting Hypergraphs*. (High Honors, Winner of John G. Kemeny Prize)
- Paul De Supinski '19. Undergraduate Student. September 2018 - June 2019.
Thesis: *Convergence Times of Decentralized Graph Coloring Algorithms*. (High Honors.)
- Nicolas Julio Flores '19. Undergraduate Student. January 2019 - June 2019.
Thesis: *Fair Algorithms for Clustering*. (High Honors.)
- Jonathan Lee '23. Undergraduate student. Summer 2021, Winter 2022. Presidential Scholar.
- So Amano '23. Undergraduate student. Summer, Fall, 2021. Sophomore Scholar.
- Ziray Hao '22. Undergraduate student. June 2020 - Dec 2020. Presidential Scholar.
- Raymond Chen '22. Undergraduate student. January 2020 - Dec 2020. Presidential Scholar.

Thesis Committee Member at Dartmouth (Last 5 years)

- Prantar Ghosh. Advisor: Amit Chakrabarti. Proposal: March, 2021. Defense: May, 2022.
- Anup Joshi. Advisor: Prasad Jayanti. Proposal: January, 2019. Defense: May, 2020.
- Suman Bera. Advisor: Amit Chakrabarti. Proposal: March, 2018. Defense: March, 2019.
- Matthew Keating. Advisor: Michael Casey. Undergraduate Thesis Committee, May 2023.
- Saksham Arora. Advisor: Inas Khayal. Undergraduate Thesis Committee, May 2023.
- Themistoklis Haris. Advisor: Amit Chakrabarti. Undergraduate Thesis Committee, May 2021.
- Ugur Yavuz. Advisor: Prasad Jayanti. Undergraduate Thesis Committee, May 2021.
- Edward Yao. Advisor: Prasad Jayanti. Undergraduate Thesis Committee, May 2019.
- Yining Chen. Advisor: Amit Chakrabarti. Undergraduate Thesis Committee, May 2018.

Thesis Committee Member outside Dartmouth (Last 5 years)

- Paritosh Garg. École polytechnique fédérale de Lausanne (EPFL). Advisor: Ola Svensson. Defense: September, 2022.
- Yu Chen. University of Pennsylvania. Advisor: Sanjeev Khanna . Proposal: March, 2022. Defense: June, 2022.
- Gunjan Kumar. TATA Institute of Fundamental Research. Advisor: Umang Bhaskar. Defense: December, 2021.

Service

External

- Program Committee Member (last few years)
 - STOC 2024, 56th ACM Symposium on the Theory of Computing.
 - ESA 2023, Track S, 31st Annual European Symposium on Algorithms.
 - EC 2023, 24th Conference on Economics and Computation.
 - SOSA 2023, 6th SIAM Symposium on Simplicity in Algorithms.
 - SODA 2022, 33rd Annual ACM-SIAM Symposium on Discrete Algorithms.
 - APPROX 2022, 25th International Conference on Approximation Algorithms for Combinatorial Optimization Problems.
 - FORC 2022, 3rd Symposium on Foundations of Responsible Computing.
 - EC 2021, 22nd Conference on Economics and Computation.
 - ESA 2020, 28th Annual European Symposium on Algorithms.
 - SOSA 2020, 3rd SIAM Symposium on Simplicity in Algorithms.
 - APPROX 2019, 22nd International Conference on Approximation Algorithms for Combinatorial Optimization Problems.
 - SODA 2019, 30th Annual ACM-SIAM Symposium on Discrete Algorithms.
- Organizer: Tutorial on Fairness in Clustering, AAAI 2022 (Virtual)
- Organizer: Cluster on Approximation Algorithms in Clustering, ISMP 2018, Bordeaux.
- Organizer: Mysore Park Workshop on Recent Trends in Algorithms and Complexity, August 2016
- Organizer: ICTS-NEU Workshop on Games, Epidemics, and Behaviour, June 2016.
- Guest Journal Editor: Theory of Computing special issue for APPROX 2014.
- NSF Panelist, 2020, 2023
- Reviewer of research proposals for Israel Science Foundation (ISF); Hungarian Science Research Fund (OTKA)
- Reviewer: (most on multiple occasions) FOCS, STOC, SODA, ICALP, EC, ESA, APPROX, RANDOM, ITCS, SIAM Journal on Computing, Combinatorica, SIAM Journal on Discrete Math, Transactions on Algorithms, Theory of Computing, Algorithmica.

Dartmouth

- Committee on Standards, Winter and Spring 2023
- Undergraduate Program Director, Winter and Spring 2022, Fall 2022 and Winter 2023
- Curriculum Committee, July 2018 – June 2021

- Colloquium Organizer, July 2018 – June 2020
- PhD Admissions Committee, July 2017 – June 2018