Karthekeyan Chandrasekaran

CONTACT
INFORMATION

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104 S. Mathews Ave
Urbana, IL 61801

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RESEARCH
INTERESTS

Combinatorial Optimization, Algorithms, Math Programming, Probabilistic Methods

APPOINTMENTS

Associate Professor
University of Illinois at Urbana-Champaign, IL
Department of Industrial and Enterprise Systems Engineering — Aug, 2021-present

Affiliate
University of Illinois at Urbana-Champaign, IL
Department of Computer Science — Sep, 2014-present

Assistant Professor
University of Illinois at Urbana-Champaign, IL
Department of Industrial and Enterprise Systems Engineering — Sep, 2014-Jul, 2021

Simons Postdoctoral Research Fellow
Harvard University, Cambridge, MA
School of Engineering and Applied Sciences
Host: Salil Vadhan — Sep, 2012-Aug, 2014

Visiting Researcher
International Computer Science Institute (ICSI), Berkeley, CA
Algorithms Group
Host: Richard Karp — Jul-Oct, 2011

Research Intern
Microsoft Research, Bangalore, India
Algorithms Group
Host: Navin Goyal — May-Jul, 2009
Host: Amit Deshpande — May-Jul, 2008

Applied Mathematics Group
Host: Satya V. Lokam — May-Jul, 2007

Microsoft Research, Redmond, WA
Algorithms Group
Host: Ramarathnam Venkatesan — Jun-Aug, 2006

EDUCATION

Ph.D., Algorithms, Combinatorics, and Optimization — Aug, 2012
Georgia Institute of Technology, Atlanta
Advisor: Santosh Vempala

B.Tech., Computer Science and Engineering — Jun, 2007
Indian Institute of Technology, Madras

TEACHING

Graduate-level (UIUC)
- Combinatorial Optimization, IE 519/CS 586 (formerly IE 598)
  Fall 2015, Spring 2018, 2020
- Integer Programming, IE 511
  Spring 2015, 2017, 2019

Undergraduate-level (UIUC)
- Deterministic Models in Optimization, IE 310
  Spring 2016, 2022, Fall 2016, 2017, 2018, 2019, 2020

- Operations Research Lab, IE 311
  Spring 2016, Fall 2016, 2017, 2018

STUDENTS

PhD Advisees
- Shubhang Kulkarni, UIUC (2020–present)

- Weihang Wang, UIUC (2019–present)

- Calvin Beideman, UIUC (2018–present)

- Chao Xu, UIUC (PhD, May 2018, joint with Prof. Chandra Chekuri)
  Thesis title: "Cuts and Connectivity in Graphs and Hypergraphs"
  Currently Assistant Professor at UESTC (formerly at Yahoo! Research, Grab, Voleon)

MS Advisees
- Sahand Mozaffari, UIUC (Aug 2021, joined Microsoft)

- Ali Bibak, UIUC (Aug 2020, joined FlexTrade)

BS-MCS Advisees
- Victor Sui, UIUC (2019–2020, joined Jump Trading)

Undergrad Advisees
- Aditya Pillai, UIUC (2019–2020, joined as PhD student at Georgia Tech)

- Jingwen Jiang, UIUC (2015–16, joined as PhD student at Univ. of Chicago)

GRANTS

Awarded
- Cuts, Connectivity and Partitioning in Graphs, Hypergraphs and Beyond
  NSF ($500,000): Algorithmic Foundations (Small), jointly with co-PI Prof. Chekuri, 2019

- Matrix Signings and Algorithms for Expanders and Combinatorial Nullstellensatz
  NSF ($500,000): Algorithmic Foundations (Small), jointly with co-PI Prof. Kolla, 2018

AWARDS AND
HONORS

Sharp Outstanding Teaching Award in Industrial Engineering
University of Illinois, Urbana-Champaign   2018

Teachers Ranked as Excellent by their Students
Combinatorial Optimization (Grad level)   Spring 2018, Spring 2020
Deterministic Models in Optimization (Undergrad level)   Fall 2017

Best Ph.D. Thesis Award
Sigma Xi Chapter, Georgia Institute of Technology   2013

College of Computing Dissertation Prize
Georgia Institute of Technology   2012

Algorithms and Randomness Center (ARC) Fellowship
Georgia Institute of Technology   Fall 2010, Spring 2012

CONFERENCE
PUBLICATIONS

Approximate minimum cuts and their enumeration
(with C. Beideman, W. Wang)
- Symposium on Simplicity in Algorithms (SOSA), Jan 2023

Approximate Representation of Symmetric Submodular Functions via Hypergraph Cut Functions

(with C. Beideman, C. Chekuri, C. Xu)
- Foundations of Software Technology and Theoretical Computer Science (FSTTCS), Dec 2022

Counting and enumerating optimum cut sets for hypergraph k-partitioning problems for fixed k
(with C. Beideman, W. Wang)
- International Colloquium on Automata, Languages and Programming (ICALP), Jul 2022

Faster connectivity in low-rank hypergraphs via expander decomposition
(with C. Beideman, S. Mukhopadhyay, D. Nanongkai)
- Integer Programming and Combinatorial Optimization (IPCO), Jun 2022

Deterministic enumeration of all minimum k-cut-sets in hypergraphs for fixed k
(with C. Beideman, W. Wang)
- ACM-SIAM Symposium on Discrete Algorithms (SODA), Jan 2022

ℓ_p-norm Multiway Cut
(with W. Wang)
- European Symposium on Algorithms (ESA), Sep 2021

Fixed Parameter Approximation Scheme for Min-max k-cut
(with W. Wang)
- Integer Programming and Combinatorial Optimization (IPCO), May 2021

Min-max Partitioning of Hypergraphs and Symmetric Submodular Functions
(with C. Chekuri)
- ACM-SIAM Symposium on Discrete Algorithms (SODA), Jan 2021

Fixed-Parameter Algorithms for Longest Heapable Subsequence and Maximum Binary Tree
(with E. Grigorescu, G. Istrate, S. Kulkarni, Y-S. Lin, M. Zhu)
- International Symposium on Parameterized and Exact Computation (IPEC), Dec 2020

Hypergraph k-cut for fixed k in deterministc polynomial time
(with C. Chekuri)
- IEEE Symposium on Foundations of Computer Science (FOCS), Nov 2020

The Maximum Binary Tree Problem
(with E. Grigorescu, G. Istrate, S. Kulkarni, Y-S. Lin, M. Zhu)
- European Symposium on Algorithms (ESA), Sep 2020

Multicriteria cuts and size-constrained k-cuts in hypergraphs
(with C. Beideman, C. Xu)
- International Conference on Randomization and Computation (RANDOM), Aug 2020

Spectral Aspects of Symmetric Matrix Signings
(with C. Carlson, H-C. Chang, N. Kakimura, A. Kolla)
- Mathematical Foundations of Computer Science (MFCS), Aug 2019

Improving the Integrality Gap for Multiway Cut
(with K. Bérczi, T. Király, V. Madan)
- Integer Programming and Combinatorial Optimization (IPCO), May 2019

Improving the smoothed complexity of FLIP for max cut problems
(with A. Bibak, C. Carlson)
- ACM-SIAM Symposium on Discrete Algorithms (SODA), Jan 2019

Lattice-based Locality Sensitive Hashing is Optimal
(with D. Dadush, V. Gandikota, E. Grigorescu)
- Innovations in Theoretical Computer Science (ITCS), Jan 2018

Hypergraph k-Cut in Randomized Polynomial Time
(with C. Xu, X. Yu)
- ACM-SIAM Symposium on Discrete Algorithms (SODA), Jan 2018

A tight $\sqrt{2}$-approximation for Linear 3-Cut
(with K. Bérczi, T. Király, V. Madan)
- ACM-SIAM Symposium on Discrete Algorithms (SODA), Jan 2018

Odd Multiway Cut in Directed Acyclic Graphs
(with S. Mozaffari)
- International Symposium on Parameterized and Exact Computation (IPEC), Sep 2017

Global and fixed-terminal cuts in digraphs
(with K. Bérczi, T. Király, E. Lee, C. Xu)
- International Workshop on Approximation Algorithms for Combinatorial Optimization Problems
(APPROX), Aug 2017

On the Expansion of Group-Based Lifts
(with N. Agarwal, A. Kolla, V. Madan)
- International Workshop on Randomization and Computation (RANDOM), Aug 2017

Local Testing for Membership in Lattices
(with M. Cheraghchi, V. Gandikota, E. Grigorescu)
- Foundations of Software Technology and Theoretical Computer Science (FSTTCS), Dec 2016

Deciding Orthogonality in Construction-A Lattices
(with V. Gandikota, E. Grigorescu)
- Foundations of Software Technology and Theoretical Computer Science (FSTTCS), Dec 2015

Finding Small Stabilizers for Unstable Graphs
(with A. Bock, J. Könemann, B. Peis, L. Sanità)
- Integer Programming and Combinatorial Optimization (IPCO), Jun 2014

Finding a Most Biased Coin with Fewest Flips
(with R. Karp)
- Conference on Learning Theory (COLT), Jun 2014

Faster Private Release of Marginals on Small Databases
(with J. Thaler, J. Ullman, A. Wan)
- Innovations in Theoretical Computer Science (ITCS), Jan 2014

Integer Feasibility of Random Polytopes
(with S. Vempala)
- Innovations in Theoretical Computer Science (ITCS), Jan 2014

The Cutting Plane Algorithm is Polynomial for Perfect Matchings
(with L. Végh, S. Vempala)
- IEEE Symposium on Foundations of Computer Science (FOCS), Oct 2012

Algorithms for Implicit Hitting Set Problems
(with R. Karp, E. Moreno-Centeno, S. Vempala)
- ACM-SIAM Symposium on Discrete Algorithms (SODA), Jan 2011

Deterministic Algorithms for the Lovász Local Lemma
(with N. Goyal, B. Haeupler)
- ACM-SIAM Symposium on Discrete Algorithms (SODA), Jan 2010

Thin Partitions: Isoperimetric Inequalities and Sampling Algorithms for some Non-convex Families
(with D. Dadush, S. Vempala)
- ACM-SIAM Symposium on Discrete Algorithms (SODA), Jan 2010

Sampling s-Concave Functions
(with A. Deshpande, S. Vempala)
- International Workshop on Randomization and Computation (RANDOM), Aug 2009

JOURNAL
PUBLICATIONS

Analyzing Residual Random Greedy for monotone submodular maximization
(with K. Bérczi, T. Király, A. Pillai)
- Information Processing Letters, 2023

Fixed Parameter Approximation Scheme for Min-max k-cut
(with W. Wang)
- Mathematical Programming, 2022

ℓ_p-norm Multiway Cut
(with W. Wang)
- Algorithmica, 2022

Hypergraph k-cut for fixed k in deterministc polynomial time
(with C. Chekuri)
- Mathematics of Operations Research, 2022

Multicriteria cuts and size-constrained k-cuts in hypergraphs
(with C. Beideman, C. Xu)
- Mathematical Programming, 2022

The Maximum Binary Tree Problem
(with E. Grigorescu, G. Istrate, S. Kulkarni, Y-S. Lin, M. Zhu)
- Algorithmica, Vol. 83, 2021

Improving the smoothed complexity of FLIP for max cut problems
(with A. Bibak, C. Carlson)
- ACM Transactions on Algorithms, Vol. 17, Issue 3, 2021

Hypergraph k-cut in randomized polynomial time
(with C. Xu, X. Yu)
- Mathematical Programming, Vol. 186, 2021

Improving the Integrality Gap for Multiway Cut
(with K. Bérczi, T. Király, V. Madan)
- Mathematical Programming, Vol. 183, 2020

Spectral Aspects of Symmetric Matrix Signings
(with C. Carlson, H-C. Chang, N. Kakimura, A. Kolla)
- Discrete Optimization, Vol. 37, 2020

Odd Multiway Cut in Directed Acyclic Graphs
(with S. Mozaffari, M. Mnich)
- SIAM Journal on Discrete Mathematics, Vol. 34, Issue 2, 2020

A tight $\sqrt{2}$-approximation for Linear 3-Cut
(with K. Bérczi, T. Király, V. Madan)
- Mathematical Programming, Vol. 184, Issue 1, 2020

On the Expansion of Group-Based Lifts
(with N. Agarwal, A. Kolla, V. Madan)
- SIAM Journal on Discrete Mathematics, Vol. 33, Issue 3, 2019

Additive Stabilizers for Unstable Graphs
(with C. Gottschalk, J. Könemann, B. Peis, D. Schmand, A. Wierz)
- Discrete Optimization, Vol. 31, 2019

Beating the 2-approximation factor for Global Bicut
(with K. Bérczi, T. Király, E. Lee, C. Xu)
- Mathematical Programming, Vol. 177, Issue 1, 2019

Local Testing of Lattices
(with M. Cheraghchi, V. Gandikota, E. Grigorescu)
- SIAM Journal on Discrete Mathematics, Vol. 32, Issue 2, 2018

Shift Lifts Preserving Ramanujan Property
(with A. Velingker)
- Linear Algebra and its Applications, Vol. 529, 2017

Deciding Orthogonality in Construction-A Lattices
(with V. Gandikota, E. Grigorescu)
- SIAM Journal on Discrete Mathematics, Vol. 31, Issue 1, 2017

The Cutting Plane Algorithm is Polynomial for Perfect Matchings
(with L. Végh, S. Vempala)
- Mathematics of Operations Research, Vol. 41, No. 1, 2016

Finding Small Stabilizers for Unstable Graphs
(with A. Bock, J. Könemann, B. Peis, L. Sanità)
- Mathematical Programming, Vol. 154, Issue 1, 2015

Deterministic Algorithms for the Lovász Local Lemma
(with N. Goyal, B. Haeupler)
- SIAM Journal on Computing, Vol. 42, Issue 6, 2013

An Observation about Variations of the Diffie-Hellman Assumption
(with R. Bhaskar, S. V. Lokam, P. L. Montgomery, R. Venkatesan, Y. Yacobi)
- Serdica Journal of Computing, Vol. 3, No. 3, 2009

Vulnerabilities in Anonymous Credential Systems
(with R. Bhaskar, S. V. Lokam, P. L. Montgomery, R. Venkatesan, Y. Yacobi)
- Electronic Notes in Theoretical Computer Science, Vol. 197, No. 2, 2008

Book Chapters
Graph Stabilization: A Survey
- Combinatorial Optimization and Graph Algorithms: Communications of NII Shonan Meetings, 2017

Articles In Review
Counting and enumerating optimum cut sets for hypergraph k-partitioning problems for fixed k
(with C. Beideman, W. Wang)

Deterministic enumeration of all minimum cut-sets and k-cut-sets in hypergraphs for fixed k
(with C. Beideman, W. Wang)

Min-max Partitioning of Hypergraphs and Symmetric Submodular Functions
(with C. Chekuri)

Talks

Approx. Representation of Symmetric Submodular Fns via Hypergraph Cut Fns

Foundations of Software Technology and Theoretical Computer Science	Dec, 2022
Indian Institute of Science, Bangalore	Nov, 2022

Partitioning over Submodular Structures

Institute of Mathematical Sciences, India	Jan, 2023
Microsoft Research, India	Dec, 2022
Indian Institute of Science, Bangalore	Mar, 2022
Indian Institute of Technology, Hyderabad	Feb, 2022
University of California, Davis	Feb, 2022
Hausdorff Institute for Mathematics, Bonn, Germany	Nov, 2021
University of Illinois, Urbana-Champaign	Sep, 2021
Carnegie Mellon University, Pittsburgh	Mar, 2021

ℓ_p-norm multiway cut

Hausdorff Institute for Mathematics, Bonn, Germany	Nov, 2021

Multiway cut and integrality gap

Mixed Integer Programming workshop, Online	May, 2021

Min-max Partitioning of Hypergraphs and Symmetric Submodular Functions

Eötvös Loránd University, Budapest	Sep, 2022
ACM-SIAM Symposium on Discrete Algorithms	Jan, 2021

Hypergraph k-cut for fixed k in deterministic polynomial time

IEEE Symposium on Foundations of Computer Science	Nov, 2020
Frontiers of Parameterized Complexity	Nov, 2020
University of Illinois, Urbana-Champaign	Nov, 2020
Michigan-Purdue Theory Seminar	Sep, 2020

Improving the smoothed complexity of FLIP for max cut problems

University of Illinois, Chicago	Oct, 2019
Workshop on Combinatorial Optimization, Corsica	Sep, 2019
Purdue University, West Lafayette	Mar, 2019

Hypergraph k-cut in randomized polynomial time

Cornell University, Ithaca	Apr, 2020
University of Colorado, Boulder	Nov, 2018
ISMP '18, Bordeaux	Jul, 2018
Eötvös Loránd University, Budapest	Jun, 2018
Flexible Network Design Workshop, Maryland	May, 2018
University of Illinois, Urbana-Champaign	Apr, 2018
Northwestern University, Evanston	Mar, 2018
Purdue University, West Lafayette	Feb, 2018

Beating the 2-factor for Bicut

University of Chicago, Chicago	Nov, 2017

Global and fixed-terminal cuts in digraphs

Midwest Theory Day, Indiana University, Bloomington	Apr, 2017

ACO25, Georgia Institute of Technology, Atlanta   Jan, 2017

Lattice Optimization
University of Illinois, Urbana-Champaign   Apr, 2016

Stabilizers for Unstable Graphs
INFORMS '16, Nashville   Nov, 2016
Workshop in Current Trends in Combinatorial Optimization, Shonan, Japan   Apr, 2016
ISMP '15, Pittsburgh   Jul, 2015

Local Testing for Membership in Lattices
Hausdorff Institute for Mathematics, Bonn, Germany   Nov, 2015
University of Illinois, Urbana-Champaign   Sep, 2015

Finding Small Stabilizers for Unstable Graphs
INFORMS '14, San Francisco   Nov, 2014
Purdue University, West Lafayette   Oct, 2014
University of Illinois, Urbana-Champaign   Sep, 2014
Flexible Network Design Workshop, Lugano, Switzerland   Aug, 2014

Finding a Most Biased Coin with Fewest Flips
EPFL, Lausanne, Switzerland   Jul, 2014
RWTH Aachen University, Aachen, Germany   Jun, 2014
Conference on Learning Theory 2014, Barcelona, Spain   Jun, 2014

Integer Feasibility of Random Polytopes
Microsoft Research, Redmond   Mar, 2014
Massachusetts Institute of Technology, Cambridge   Mar, 2014
Innovations in Theoretical Computer Science 2014, Princeton   Jan, 2014

Faster Private Release of Marginals on Small Databases
University of Waterloo, Ontario, Canada   Oct, 2013
Purdue University, West Lafayette   Sep, 2013

A Polynomial-time Cutting Plane Algorithm for Perfect Matchings
Northeastern University, Boston   Dec, 2013
Brown University, Providence   Oct, 2013
Flexible Network Design Workshop, Toronto, Canada   Aug, 2013
Bellairs Workshop on Combinatorial Optimization, Barbados   Apr, 2013
Carnegie Mellon University, Pittsburgh   Jan, 2013
IEEE Symposium on Foundations of Computer Science, New Brunswick   Oct, 2012
Harvard University, Cambridge   Oct, 2012
Toyota Technological Institute, Chicago   Jun, 2012

A Discrepancy based Approach to Integer Programming
Toyota Technological Institute, Chicago   Jun, 2012
SIAM Conference on Discrete Mathematics, Halifax, Canada   Jun, 2012
Workshop on Computation and Phase Transitions, Atlanta   Jun, 2012
Discrete Optimization Seminar, Georgia Institute of Technology, Atlanta   Jan, 2012
INFORMS '11, Charlotte   Nov, 2011
Microsoft Research, Silicon Valley   Nov, 2011
IBM Research, Almaden   Sep, 2011
University of California, Berkeley   Aug, 2011

Algorithms for Implicit Hitting Set Problems
Random Structures and Algorithms, Atlanta   May, 2011
ACM-SIAM Symposium on Discrete Algorithms, San Francisco   Jan, 2011

Microsoft Research, Bangalore, India   Dec, 2010
Indian Institute of Technology, Madras, India   Dec, 2010
ACO Student Seminar, Georgia Institute of Technology, Atlanta   Apr, 2010

Algorithms for the Lovász Local Lemma
Indian Institute of Technology, Madras   Dec, 2010
Combinatorics Seminar, Georgia Institute of Technology, Atlanta   Sep, 2009

Sampling Star-shaped Bodies
Microsoft Research, Bangalore, India   Jul, 2009

Sampling s-Concave Functions
INFORMS '09, San Diego   Oct, 2009
RANDOM-APPROX, Berkeley   Aug, 2009
Microsoft Research, Bangalore, India   Jun, 2009

DISTINGUISHED **Beating the 2-factor for Bicut**
TALKS   Workshop on Combinatorial Optimization, Corsica   Oct, 2018

                k-**Cut in Graphs, Hypergraphs and Beyond**
Workshop on Combinatorial Optimization, Corsica   Oct, 2018

PROFESSIONAL **Grant Panels**
SERVICE
- National Science Foundation (NSF) Panel Member
- Israel Science Foundation (ISF) Evaluator, 2019, 2020

Program Committee Member
- Workshop on Approximation and Online Algorithms (WAOA), 2022
- International Conference on Approximation Algorithms for Combinatorial Optimization Problems (APPROX), 2019, 2022
- Symposium on Simplicity in Algorithms (SOSA), 2022
- International Conference on Randomization and Computation (RANDOM), 2021
- ACM-SIAM Symposium on Discrete Algorithms (SODA), 2020
- International Symposium on Combinatorial Optimization (ISCO), 2018, 2020, 2022

Reviewer for conferences
ALT (2012), APPROX (2017), CCC (2014), COLT (2014, 2016), CSR (2019), FOCS (2010, 2013, 2015, 2016, 2017, 2018, 2019, 2020), FSTTCS (2013, 2020), ESA (2018), ICALP (2018, 2021), IPCO (2016, 2019, 2021, 2022, 2023), LATIN (2012), NIPS (2010), PODS (2015), RANDOM (2012, 2018), SODA (2015, 2016, 2017, 2018, 2019, 2021, 2022), SOSA (2019), STOC (2011, 2015, 2016, 2017, 2018, 2020, 2021, 2023)

Reviewer for journals
Algorithmica, Discrete Applied Mathematics, Discrete Mathematics, Discrete Optimization, IEEE/ACM Transactions on Networking, Journal of Computer and System Sciences (JCSS), Mathematical Programming, Mathematics of Operations Research (MOR), Open Journal of Mathematical Optimization, Operations Research, Random Structures and Algorithms, Science China Mathematics, SIAM Journal on Computing (SICOMP), SIAM Journal on Discrete Mathematics (SIDMA), SIAM Journal on Optimization (SIOPT), Theoretical Computer Science (TCS), Transactions on Knowledge and Data Engineering (TKDE)

Organizer
- *APPROX-RANDOM Conference*
  Local Organizer, 2022

- *Recent progress in graph cut problems*
  Session Organizer, International Symposium on Mathematical Programming (ISMP), Bordeaux, 2018

- *Algorithmic Learning Theory*
  Session Organizer, INFORMS Annual Meeting, Phoenix, 2012

UNIVERSITY
SERVICE

Department of Industrial and Enterprise Systems Engineering, UIUC
• CS+X and X+DS Committee (as Chair)	Spring 22
• Faculty Hiring Committee	2020-21, 21-22
• Operations Manager Hiring Committee (as Chair)	2019-20
• Graduate Committee	2016–17, 18-19
• Marketing and Outreach Committee	2018-19
• Advisory Committee	2016–18
• Grainger Engineering Breakthrough Initiative (GEBI) Hiring Committee	2015–16, 17–18
• Seminars Committee (as Chair)	2015–16
• ISE-CS Liaison	2014–15
• Courses and Curriculum Committee	2014–15
• Space Committee	2014–15

College of Engineering, UIUC
- College of Engineering Committee — 2020–21
  – Evaluated new CS courses
- College of Engineering Committee — 2015–16
  – Evaluated the revised CS curriculum and new CS courses
- Library Committee — 2014–15

BROADER SERVICE

- Illinois Council of Teachers of Mathematics (ICTM) Math Contest
  Oral Judge — 2016, 2017, 2018, 2019
- Undergraduate Research Symposium
  Poster Judge — 2022

INSTRUCTIONAL
ACTIVITIES

PhD Defense Exam Committee
- Setareh Taki, Industrial Engineering, UIUC, Spring 2022
- Matthew Drescher, Mathematics, Universite Libre De Bruxelles, Fall 2021
- Yipu Wang, Computer Science, UIUC, Spring 2020
- Vivek Madan, Computer Science, UIUC, Summer 2018
- Shalmoli Gupta, Computer Science, UIUC, Summer 2018
- Mayank Baranwal, Mechanical Science and Engineering, UIUC, Spring 2018
- Hee Youn Kwon, Industrial Engineering, UIUC, Spring 2018
- Chao Xu, Computer Science, UIUC, Spring 2018 (as Director of Research)
- Siyang Xie, Civil Engineering, UIUC, Spring 2018
- Venkata Gandikota, Computer Science, Purdue, Spring 2017

PhD Preliminary Exam Committee
- Manuel Torres, Computer Science, UIUC, Fall 2022
- Ian Ludden, Computer Science, UIUC, Spring 2022
- Calvin Beideman, Computer Science, UIUC, Spring 2022

- Setareh Taki, Industrial Engineering, UIUC, Fall 2021
- Weihang Wang, Mathematics, UIUC, Spring 2021
- Yipu Wang, Computer Science, UIUC, Fall 2018
- Wenda Zhang, Industrial Engineering, UIUC, Fall 2018
- Hee Youn Kwon, Industrial Engineering, UIUC, Fall 2017
- Chao Xu, Computer Science, UIUC, Spring 2017 (as Director of Research)
- Shalmoli Gupta, Computer Science, UIUC, Spring 2017
- Vivek Madan, Computer Science, UIUC, Spring 2017
- Siyang Xie, Civil Engineering, UIUC, Spring 2017
- Mayank Baranwal, Mechanical Science and Engineering, UIUC, Fall 2016
- Venkata Gandikota, Computer Science, Purdue, Fall 2015

PhD Oral Qualifiers Committee
- Lang Yin, Industrial Engineering, UIUC, Spring 2022
- Yufei Ruan, Industrial Engineering, UIUC, Fall 2019, Spring 2021
- Tiancheng Qin, Industrial Engineering, UIUC, Fall 2019
- Samhita Vadrevu, Industrial Engineering, UIUC, Spring 2019
- Siqi Zhang, Industrial Engineering, UIUC, Spring 2019
- Timothy Murray, Industrial Engineering, UIUC, Spring 2018
- Menglong Li, Industrial Engineering, UIUC, Spring 2018
- Reza Yousefi Maragheh, Industrial Engineering, UIUC, Spring 2017
- Runqi Hu, Industrial Engineering, UIUC, Fall 2015
- Shuanglong Wang, Industrial Engineering, UIUC, Spring 2015

Industry sponsored undergraduate projects advised (SE 494/495)
- Paint Room Layout and Process Analysis for Cost and Efficiency Improvement
  Taylor Calcagno, Scott Jin, Keerthi Rajaram, Vaishali Tikoo, Jibing Yao
  Simply Amish, Spring 2022
- Medical Packaging Production Troubleshooting and Productivity Improvement with Pick-and-Place
  Aaryaman Baid, Harrison Oliff, Satvika Veeravalli, Minxing Sun
  PPC Flexible Packaging, Spring 2021
- Design of Reusable Shipping Container System for Efficiency and Cost Reduction
  Kisun Ahn, Maya Burgard, Reilly Devine, Aqsa Owais
  Zelis, Spring 2020
- Intranet Gamification for Enhancement of Employee Participation
  Shijun Cao, Anjana Narasimhan, Shane O'Brien, Yu Wang
  Cushman & Wakefield, Fall 2019
- Plant Layout for Production Expansion and Increased Efficiency
  Sebastian Basuki, Ji Won Park, Amelia Snyder
  Tovala, Spring 2019
- Tango Autonomous Mower Path Planning Algorithm Improvement
  Shaan Bhakta, Daniel Hill, Xinhang Li, Rikin Mehta
  John Deere Technology Innovation Center, Fall 2018
- Volumetric Analysis for Packaging Accuracy and Cost Reduction
  Gregory Chew, Lucas Gutzwiller, Callahan Skiles, Danielle Stasik
  Tucker Rocky Distributing, Spring 2018

- Yard Layout Optimization for Trailer Loading Efficiency
  Henry Doyle, Xueru Rong, Benjamin Wegloski
  Morton Buildings, Inc., Fall 2017

- Logistics Optimization of Regionally Located Construction Equipment
  Sean Kelley, Thomas Kukec, Jin Hwan Lee, Scott Shiro
  Morton Buildings, Inc., Fall 2016

- Tube Product Scrap Analysis and Reduction
  Aly Mohamed Said Elalfy, Christine Hudak, Jared Konrardy
  Atkore International, Spring 2016

- Foam Plank Extrusion Batch Process Scrap Reduction
  Michelle Erickson, Jared Spivey, Chen Zhang
  Pregis Corporation, Fall 2015

INSTRUCTIONAL IMPROVEMENT ACTIVITIES	**Collins Scholar Program**

Collins Scholar Program
Academy for Excellence in Engineering Education, UIUC   2014–15