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Educational Background

Degree	University	Graduation	Dept.
B.E.	R.E.C. Rourkela	May 1998	CSE
M.E.	Indian Institute of Science	Jan 2000	CSA
PhD	Purdue University	Aug 2003(transfer)	CS
PhD	UCLA	Dec 2005	CS
<i>Thesis:</i> Combining Stack Location Allocation with Register Allocation. Advisor: Jens Palsberg			

Work Experience

- Oct 2022 - : Head, Dept of CSE, IIT Madras, Chennai.
- Mar 2020 - : Professor, IIT Madras, Chennai.
- July 2015 - Mar 2020: Associate Professor, IIT Madras, Chennai.
 - Aug 2018 - May 2019 (Sabbatical) JT Oden Faculty Fellow, University of Texas at Austin.
- October 2011 - July 2015: Assistant Professor, IIT Madras, Chennai.
- October 2008 - September 2011: Research Staff Member, IBM Research, Bangalore.
- Feb 2006 - October 2008: Research Staff Member, IBM Research, New Delhi.
- May 2003-Aug 2003: Summer intern at Sun Labs, Burlington in the garbage collection group, under Dr. David Detlefs.
- Feb 2000-Jul 2001: Senior software engineer at Hewlett Packard, Bangalore, in the low level optimization and code generation group of the PA-RISC C and C++ compiler.

Teaching Experience

- IIT Madras

Course Name	UG/PG	Type	Offering year
Software Engineering	UG	Core	2012, '11
Principles of Programming languages	PG	Elective	2015, '14, '13, '12
Modern Compilers - Theory and Practice	PG	Elective	2020, '17, '16, '15, '13, '12
Compiler Design (theory and lab)	UG	Core	2019, '17, '16, '14, '13, '12
Recent topics in Compilers	PG	Elective	2015
Introduction to Programming	UG	Core	2015
Concurrent Programming	PG	Elective	2018

- IIT Mandi: Topics in Compiler Design (2018).
- IIT Delhi: Advanced Compiler Construction (graduate course, even semester 2007).
- University of California, Los Angeles: Compiler Construction (teaching assistant to Prof. Jens Palsberg, Fall 2005), Programming Languages (teaching assistant to Prof. Jens Palsberg, Fall 2004)

Areas of interest

- Program optimization: High level and low level (architecture specific) optimizations, interaction between optimizations, mathematical models for optimization, issues in static and dynamic code optimizations.
- Program verification: Static and Dynamic program verification for time, memory and threads related properties.
- Program analysis: Reasoning about programs by static analysis, type based analysis.
- Language extensions: For the ease of programming and program analysis.

Honours and Awards

- Prof. B. Yegnanarayana award for excellence in research and teaching, for the year 2024.
- IBM CAS Faculty of the Year Award 2024.
- Outstanding reviewer award - CASES 2023.
- Best paper nominee - PACT 2019.
- Best paper nominee - PACT 2018.
- Cray's Dr. A.P.J Abdul Kalam HPC Award (2017) – in the young researcher category.
- Senior Member IEEE (Feb 2016).
- Senior Member ACM (May 2016).
- HPC Challenge (Class II) Winner, at Supercomputing Conference year 2008: a joint submission of X10 and UPC teams.
- HPC Challenge (Class II) Winner, at Supercomputing Conference year 2007 (X10 Team submission).
- UCLA fellowship support 2005.
- Member Purdue University Beta Chapter of Upsilon Pi Epsilon, International Honor Society for Computing Sciences.
- GATE 1998, Score 99.31 *percentile All India Rank = 20*.
- Among the top 1% of the total applicants in IIT-JEE and Orissa JEE 1994.

Publications and Patents

Journal papers

1. *IncIDFA: An Efficient and Generic Algorithm for Incremental Iterative Dataflow Analysis*, Aman Nougrihiya and V. Krishna Nandivada. (To appear) In the Proceedings of the ACM on Programming Languages (PACMPL), (OOPSLA), **2025**.
2. *The ART of Sharing Points-to Analysis: Reusing Points-to Analysis Results Safely and Efficiently*, Shashin Halalingaiah, Vijay Sundaresan, Daryl Maier and V. Krishna Nandivada. In the Proceedings of the ACM on Programming Languages (PACMPL), Vol 2(OOPSLA), pp. 2606-2632, Oct **2024**.
3. *Optimistic Stack Allocation and Dynamic Heapification for Managed Runtimes*, Aditya Anand, Solai Adithya, Swapnil Rustagi, Priyam Seth, Vijay Sundaresan, Daryl Maier, V. Krishna Nandivada, and Manas Thakur. In the Proceedings of the ACM on Programming Languages (PACMPL), PLDI, pp. 296-319, Jun **2024**. (Acceptance rate = 27%).
4. *Homeostasis: Design and Implementation of a Self-Stabilizing Compiler*, Aman Nougrihiya and V. Krishna Nandivada. In the ACM Transactions on Programming Languages and Systems (TOPLAS), pp. 6:1-6:58, Vol 46(2), May **2024**.
5. *COWS for High Performance: Cost Aware Work Stealing for Irregular Parallel Loops*, Prasoon Mishra and V. Krishna Nandivada. In the ACM Transactions on Architecture and Code Optimization (TACO), pp. 12:1–12:26, Vol 21(1), Jan **2024**.
6. *DisGCo: A Compiler for Distributed Graph Analytics*, Anchu Rajendran and V. Krishna Nandivada. In the ACM Transactions on Architecture and Code Optimization (TACO), pp. 28:1–28:26, Vol 17(4), Dec **2020**.
7. *Optimizing Remote Communication in X10*, Arun Thangamani and V. Krishna Nandivada. In the ACM Transactions on Architecture and Code Optimization (TACO), pp. 34:1–34:26, Vol 16(4), Oct **2019**.
8. *Efficient Lock-Step Synchronization in Task-Parallel Languages*, Akshay Utture and V. Krishna Nandivada. In Software: Practice and Experience (SPE), pp. 1379–1401, Vol 49(9), Jul **2019**.
9. *PYE: A Framework for Precise-Yet-Efficient Just-In-Time Analyses for Java Programs*, Manas Thakur and V. Krishna Nandivada. In the ACM Transactions on Programming Languages and Systems (TOPLAS), pp. 16:1–16:37, Vol 41(3), July **2019**.
10. *Identifying Refactoring Opportunities for Replacing Type Code with Subclass and State*, Jyothi Vedurada and V. Krishna Nandivada. In the Proceedings of the ACM on Programming Languages (PACMPL), pp. 138:1–138:28, Vol 2(OOPSLA), Nov **2018**.
11. *Energy Efficient Compilation of Irregular Task-Parallel Loops*, Rahul Shrivastava and V. Krishna Nandivada. In the ACM Transactions on Architecture and Code Optimization (TACO), Vol 14(4), pp. 35:1-35:29, **2017**.
12. *Lexical State Analyzer for JavaCC grammars*, Kartik Gupta and V. Krishna Nandivada. In Software: Practice and Experience (SPE), pp. 751-765, Vol 46(6), Jun **2016**.

13. *IMSuite: A Benchmark Suite for Simulating Distributed Algorithms*, Suyash Gupta and V. Krishna Nandivada. In the Journal of Parallel and Distributed Computing (JPDC), pp. 1–19, Vol 75(0), Jan **2015**.
14. *Improved Bitwidth-Aware Variable Packing*, V. Krishna Nandivada and Rajkishore Barik. In the ACM Transactions on Architecture and Code Optimization (TACO), pp. 16:1–16:22, Vol 10(3), Sep **2013**.
15. *A Transformation Framework for Optimizing Task-Parallel Programs*, V. Krishna Nandivada, Jun Shirako, Jisheng Zhao and Vivek Sarkar. In the ACM Transactions on Programming Languages and Systems (TOPLAS), pp. 3:1–3:48, Vol 35(1), Apr **2013**.
16. *Dynamic State Restoration Using Versioning Exceptions*, V. Krishna Nandivada and Suresh Jaggannathan. In the Journal of Higher Order Symbolic Computation, Vol 19(1), pp. 101-124, Mar **2006**.

Book Chapter

1. *Advances in Register Allocation*. Book chapter in 'The Compiler Design Handbook: Optimizations and Machine Code Generation'. Author: V, Krishna Nandivada. Editors: Y. N. Srikant and Priti Shankar. CRC Press, **2007**

Papers in Conferences

1. *Reducing Write Barrier Overheads for Orthogonal Persistence*, Yilin Zhang, Omkar Dilip Dhawal, V Krishna Nandivada, Shigeru Chiba, Tomoharu Ugawa. In the Proceedings of the Software Language Engineering (SLE), pp. 210-223, Oct **2024**.
2. *UWOmp_{pro}: UWOMP++ with Point-to-Point Synchronization, Reduction and Schedules*, Aditya Agrawal and V. Krishna Nandivada. In the Proceedings of the Parallel and Architectures and Compilation Techniques (PACT), Oct **2023**. (Acceptance rate = 52%).
3. *Chunking Loops with non-Uniform Workloads*, Indu K Prabhu and V. Krishna Nandivada. In the Proceedings of the International conference on Supercomputing (ICS), pp. 1-12, Jul **2020**. (Acceptance rate = 30%).
4. *A Study of Graph Analytics for Massive Datasets on Large-Scale Distributed GPUs*, Vishwesh Jatala, Roshan Dathathri, Gurbinder Gill, Loc Hoang, V. Krishna Nandivada and Keshav Pingali. In the proceedings of the IEEE International Parallel & Distributed Processing Symposium (IPDPS), pp: 84-94, May **2020**.
5. *Mix Your Contexts Well: Opportunities Unleashed by Recent Advances in Scaling Context-Sensitivity*, Manas Thakur and V. Krishna Nandivada. In the Proceedings of the International conference on Compiler Construction (CC), pp. 27-38, Feb **2020**. (Acceptance rate = 44%).
6. *On the fly MHP Analysis*, Sonali Saha and V. Krishna Nandivada. In the Proceedings of the Symposium on Principles and Practice of Parallel Programming (PPoPP), pp. 173-186, Feb **2020**. (Acceptance rate = 24%).
7. *Batch Alias Analysis*, Jyothi Vedurada and V. Krishna Nandivada. In the Proceedings of the International Conference on Automated Software Engineering (ASE), pp. 936-949, Nov **2019**. (Acceptance rate = 22%).

8. *Gluon-Async: A Bulk-Asynchronous System for Distributed and Heterogeneous Graph Analytics*, with Roshan Dathathri, Gurbinder Gill, Loc Hoang, Hoang-Vu Dang, Vishwesh Jatala, V. Krishna Nandivada, Marc Snir and Keshav Pingali. In the Proceedings of the Parallel and Architectures and Compilation Techniques (PACT), pp. 15-28, Sep **2019**. (Acceptance rate = 27%). **Best paper nominee**.
9. *Graph Coloring using GPUs*, Meghana Aparna Sistla and V. Krishna Nandivada. In the Proceedings of the European Conference on Parallel and Distributed Computing (Euro-Par), Aug **2019**. pp. 377-390, (Acceptance rate = 26%).
10. *Compare less, Defer more: Scaling value-contexts based whole-program heap analyses*, Manas Thakur and V. Krishna Nandivada. In the Proceedings of the International conference on Compiler Construction (CC), pp. 135-146, Feb **2019**. (Acceptance rate = 37%).
11. *Efficiency and Expressiveness in UW-OpenMP*, Raghesh Aloor and V. Krishna Nandivada. In the Proceedings of the International conference on Compiler Construction (CC), pp. 182-192, Feb **2019**. (Acceptance rate = 37%).
12. *Optimizing Remote Data Transfers in X10*, Arun Thangamani and V. Krishna Nandivada. In the proceedings of the Parallel Architectures and Compilation Techniques (PACT), pp. 27:1-27:15, Nov **2018**. (Acceptance rate = 29%). **Best paper nominee**.
13. *TTLG - An efficient tensor transposition library for GPUs*, Jyothi Vedurada, Arjun Suresh, Aravind Sukumaran Rajam, Jinsung Kim, Changwan Hong, Sriram Krishnamoorthy, Ajay Panyala, Rohit Srivastava, V. Krishna Nandivada and P Sadayappan. In the proceedings of the IEEE International Parallel & Distributed Processing Symposium (IPDPS), pp. 578-588, May **2018**. (Acceptance rate = 24.5%).
14. *Optimizing Recursive Task Parallel Programs*, Suyash Gupta, Rahul Shirvastava and V. Krishna Nandivada. In the Proceedings of the 25th International Conference on Supercomputing (ICS), pp. 11:1-11:11 June **2017**. (Acceptance rate = 26%).
15. *Refactoring Opportunities for Replacing Type Code with State and Subclass*, Jyothi Vedurada and V. Krishna Nandivada. In the (companion) Proceedings of the 25th International Conference on Software Engineering (ICSE), pp. 305-307, May **2017**.
16. *Improved MHP Analyses*, Aravind Sankar, Soham Chakraborty and V. Krishna Nandivada. In the Proceedings of the 25th International Conference on Compiler Construction (CC), pp. 207-217, March **2016**. (Acceptance rate = 31%)
17. *Loop tiling in the presence of exceptions*, Abhilash Bhandari and V. Krishna Nandivada. In the Proceedings of the 29th European Conference on Object-Oriented Programming (ECOOP), pp. 124-148, July **2015**. (Acceptance rate = 23%)
18. *Unique Worker model for OpenMP*, Raghesh Aloor and V. Krishna Nandivada. In the Proceedings of the 29th International Conference on Supercomputing (ICS), pp.47-56, June **2015**. (Acceptance rate = 25%)
19. *Identifying Services from Business Applications*, Raghavan Komondoor, V. Krishna Nandivada, Saurabh Sinha and John Field. In the Proceedings of the 5th India Software Engineering Conference (ISEC), ACM, pp. 13-22, February **2012**. (Acceptance rate = 8%)

20. *A framework for analyzing programs written in proprietary languages*, V. Krishna Nandivada, Mangala Gowri Nanda, Pankaj Dhoolia, Diptikalyan Saha, Anjan Nandy, Arup K Ghosh. In the Proceedings of SPLASH Wavefront, ACM, pp. 289-300, October **2011**. (Acceptance rate = 50%)
21. *Fault Localization for Data-Centric Programs*, Diptikalyan Saha, Mangala Gowri Nanda, Pankaj Dhoolia, V. Krishna Nandivada, Vibha Sinha and Satish Chandra. In the Proceedings of the 19th ACM SIGSOFT Symposium on the Foundations of Software Engineering, pp. 157-167, September **2011**. (Acceptance rate = 17%)
22. *Inferring Arbitrary Distributions for Data and Computation*, Soham S Chakraborty and V. Krishna Nandivada. In the proceedings of the 5th ACM SIGPLAN SPLASH (previously OOPSLA) Onward!, pp. 51-60, October **2010**. (Acceptance rate = 25%)
23. *Reducing Task Creation and Termination Operations in Explicitly Parallel Programs*, Jisheng Zhao, Jun Shirako, V. Krishna Nandivada and Vivek Sarkar. In the proceedings of the 19th International Conference on Parallel Architectures and Compilation Techniques, pp. 169-180, September **2010**. (Acceptance rate = 17%)
24. *Chunking Parallel Loops in the Presence of Synchronization*, Jun Shirako, Jisheng Zhao, V. Krishna Nandivada and Vivek Sarkar. In the proceedings of the 23rd ACM International Conference on Supercomputing, pp. 181-192, June **2009**. (Acceptance rate = 25%)
25. *Efficient, portable implementation of asynchronous multi-place programs*, Ganesh Bikshandi, Jose G. Castanos, Sreedhar B. Kodali, V. Krishna Nandivada, Igor Peshansky, Vijay Saraswat, Sayantan Sur, and Pradeep Varma. In the proceedings of the 14th ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming, pp. 271-282, February **2009**. (Acceptance rate = 24%)
26. *Static Detection of Place Locality and Elimination of Runtime Checks*, Shivali Agarwal, Rajkishore Barik, V. Krishna Nandivada, Rudrapatna K. Shyamasundar, and Pradeep Varma. In the proceedings of the 6th ASIAN Symposium on Programming Languages and Systems, pp. 53-73, December **2008**. (Acceptance rate = 50%)
27. *A framework for end-to-end evaluation of register allocators* V. Krishna Nandivada, Fernando Pereira and Jens Palsberg. In the proceedings of the 14th International Static Analysis Symposium, pp. 153-169, August **2007**. (Acceptance rate 30%)
28. *SARA: Combining Stack Allocation and Register Allocation*, V. Krishna Nandivada and Jens Palsberg. In the proceedings of the 15th International Conference on Compiler Construction, pp. 232-246, April **2006**. (Acceptance rate 24%)
29. *Timing analysis of TCP servers for surviving denial-of-service attacks*, V. Krishna Nandivada and Jens Palsberg. In the proceedings of the 11th IEEE Real-Time and Embedded Technology and Applications Symposium, pp. 541-549, March **2005**. (Acceptance rate 33%)
30. *Compile-Time Concurrent Marking Write Barrier Removal*, V. Krishna Nandivada and David Detlefs. In the proceedings of the 3rd annual IEEE/ACM international symposium on Code Generation and Optimization, pp. 37-48, March **2005**. (Acceptance rate = 35%)
31. *Efficient Spill Code with SDRAM*, V. Krishna Nandivada and Jens Palsberg. In Proceedings of 4th International Conference on Compilers, Architecture and Synthesis for Embedded Systems, pp .24-31, October **2003**. (Acceptance rate 19%)

Patents // In all the patents author names are alphabetically sorted.

1. *System and method for determining the behavioral integrity of an application*, with Thangaraj Raja Subramaniam; granted in 2022 (Indian patent no: 410472). First commercial use in 2019.
2. *System And Method For Performing Self-Stabilizing Compilation*, with Aman Nougrihiya; granted in 2021 (Indian Patent no: 383458).
3. *Systems and methods for automatically optimizing high performance computing programming languages*, with Ganesh Bikshandi, Igor Peshanski and Vijay Saraswat; granted in 2014 (US patent no: 8924946).
4. *Fault localization for data-centric programs*, with Satish Chandra, Pankaj Dhoolia, Mangala Gowri Nanda, Diptikalyan Saha, Vibha Singhal Sinha; granted in 2014 (US Patent no: 8892951).
5. *Transformation of computer programs and eliminating errors*, with Pankaj Dhoolia, Anup Kumar Ghosh, Sugata Ghosal, Asidhara Lahiri, Mangala Gowri Nanda, Anjan Nandy, Diptikalyan Saha; granted in 2014 (US Patent no: 8806452).
6. *An intermediate form for bitwidth sensitive applications and uses thereof* with Rajkishore Barik; granted in 2014 (US Patent no: 8732680).
7. *Model, System and Program Storage Device for automatic incremental learning of Programming language grammar*, with Pankaj Dhoolia, Mangala Gowri and Diptikalyan Saha; granted in 2014 (US Patent no: 8676826).
8. *Method, System and Program Storage Device that Provide for Automatic Programming Language Grammar Partitioning*, with Pankaj Dhoolia, Mangala Gowri and Diptikalyan Saha; granted in 2014 (US Patent no: 8516457).
9. *System and Method for Dynamic Code Analysis in presence of the “table processing” idiom*, with Pankaj Dhoolia, Mangala Gowri, and Diptikalyan Saha; granted in 2013 (US Patent no: 8583965).
10. *Selectively eliminating write barriers in snapshot-at-the beginning concurrent-marking garbage collectors*, with David Detlefs; granted in 2010 (US Patent no: 7685580).
11. *Split-Scalarization Of Thread-Local Objects In Optimized Object Code*, with Vijay Sundaresan, Daryl Maier, and Manas Thakur. Filed for US patent in 2023 (application Number P202031US012); status - *Filed*.

Softwares

1. DisGCo: Distributed Green-Marl Compiler.
2. IMOP: IIT Madras Compiler for OpenMP programs. Tutorials: in CGO 2020, CGO 2021 and PLDI 2021.

3. Auto-SC/ST: A tool to automatically identify Subclass (SC) and State (ST) refactoring opportunities.
4. LapTrac: A software to track Laptops.
5. LSA: Lexical State Analyzer – a tool to identify errors in JavaCC grammar files with lexical states.
6. IMSuite: IIT Madras Benchmark Suite for Simulating Distributed Algorithms.
7. XINC: A framework for the creation and sustenance of dynamic communities over mobile phones.
8. X10 Compiler: An optimizing compiler that translates X10 code to C++ code (part of X10 Team).
9. RALF: A register allocation framework, that allows plug and play of register allocators inside the gcc compiler.
10. ATASYN: A static TCP server validator against SYN flooding.

Funding - Research/Consultancy Projects, Awards

External Research Funding

1. PI: Core Research Grant from SERB, 2022 - 2025. Title: *Efficient Analysis and Optimizations for Parallel Applications*.
2. PI: Research Grant from Intel, 2022-2025 Title: *Sangam: Three-way handshake between Static Compiler, JIT Compiler and Hardware*, 2022 - 2025.
3. PI: Research Grant from IBM Canada (shared with Dr. M. Thakur, Co-PI from IIT Mandi), 2022-2025 Title: *KAS: Keeping Analysis Stable*.
4. Co-PI: Research Grant from IBM Canada (shared with Dr. M Thakur, Co-PI from IIT Mandi), 2022-2025 Title: *ValFly: Program analysis to make value types fly*.
5. PI: NSM Research Grant (shared with Dr. U. Ramakrishna, Co-PI from IIT Hyderabad), 2019-2022. Title: *Programming Model/Language and Compiler for emerging HPC Systems*.
6. PI: Research Grant from IBM Canada, 2019-2022. Title: *SPARE: Safe Portable Partial-Analysis Results for JAVA Programs*.
7. PI: Core Research Grant from SERB, 2019-2022. Title: *Optimizing HPC Applications*.
8. PI: Shared University Research Grant, IBM. Title: *Irregular Parallel Programs and Performance Determinacy - an Oxymoron?*
9. PI: Research Grant from BRNS, DAE, 2013-2016. Title: *Optimizing parallel programs for multicore systems*.
10. PI: Fast Track Scheme for Young Scientists (Science and Engineering Research Board, DST), 2013-2016. Title: *Analyzing parallel programs for performance*.
11. PI: 2012 Microsoft Research India Outstanding Young Faculty Award.

Internal Research Funding

1. PI: New Faculty Seed Grant (IIT Madras). Title: *Performance analysis of multicore programs*.

Consultancy Projects

1. PI: Consultancy project with ELCOT, Chennai, 2017-2018.
2. PI: Consultancy project with Altair Inc, 2013 - 2014.
3. Architecture Readiness Program (jointly with Krishna Sivalingam, Lata Dayaram, RP Sundaram, T J Kamalanabhan) for Verizon India - 2013-2014.
4. PI: Consultancy project with Metacube, 2012 - 2012.

Research Guidance

• PhD

1. Manas Thakur (graduated in 2019; currently at IIT Bombay), Institute Research & Development Award (IRDA) winner 2019. (Joint) IBM best PhD thesis award winner 2019-20. Thesis title: *Precise and Efficient Analysis of Java Programs*.
2. Jyothi Vedurada (graduated in 2020; currently at IIT Hyderabad). Institute Research & Development Award (IRDA) winner 2020. Thesis title: *Efficient Program Analyses for Identifying Challenging Refactoring Opportunities in Object-Oriented Software*.
3. Raghesh Aloor (joined in August 2012; status: Registration Kept Alive (RKA) from May 2019).
4. Aman Nougrihiya (submitted thesis in 2024).
5. Ramya Kasaraneni (joined in Aug 2019).
6. Omkar Dhawal (joined in 2021 for MS, converted to PhD in 2023)
7. Yuvraj Talukdar (joined in Aug 2023).
8. Arun Prabhakar (joined in Jan 2024).

• MS

1. Suyash Gupta (graduated in 2015; joined Purdue for PhD). Thesis title: *Analyzing Recursive Task Parallel Programs*.
2. Abhilash Bhandari (graduated in 2015; joined AMD). Thesis title: *Loop Tiling in the Presence of Exceptions*.
3. Rahul Shrivastava (graduated in 2017; joined Samsung). Thesis title: *Energy Efficient Compilation of Irregular Task-Parallel Loops*.
4. Indu K Prabhu (graduated in 2018; joined NVIDIA). Thesis title: *Efficient Loop Chunking of Task Parallel Programs*.
5. T Arun (graduated in 2019; joined MSR). (Joint) Biswajit Sain endowment prize winner for best MS thesis (2019-20). Thesis title: *Optimizing Remote Communication in X10*.
6. Jash Khatri (joined in Aug 2019 - left in May 2020).
7. Anchu Rajendran (graduated in 2020, joined AMD). Thesis title: *DisGCo : A Compiler for Distributed Graph Analytics*.

8. Rajendra Dangwal (joined in Aug 2017, status: Registration Kept Alive (RKA) from July 2020, joined Confluent).
 9. Prasoon Mishra (graduated in Aug 2023, joined Qualcomm). Thesis title: *COWS for High Performance: Cost Aware Work Stealing for Irregular Parallel Loops*.
 10. Aditya Agrawal (graduated in 2023, joined NVIDIA). Thesis title: *UWOmp_{pro}: UWOMP++ with Point-to-Point Synchronization, Reduction and Schedules*. (Joint) Biswajit Sain endowment prize winner for best MS thesis (2023-24).
 11. Shashin Halalingaiah (graduated in 2023, joined UT Austin for PhD). Thesis title: *The ART of Sharing Analysis: Reusing Static Analysis Results Safely and Efficiently*.
 12. Amit Tiwari (graduated in 2025, joined ARM). Thesis title: *Unleashing Parallelism with Elastic-Barriers*.
 13. Rohit Kanteti (joined in Aug 2023).
 14. Sudeep Chowdhary (joined in Aug 2023).
- **MTech/DD project:** Graduated students: Raja Thangaraj (2014, Adobe), Nitin Patil (2014, LinkedIn), Vamshi Surabhi (2014, Startup), Niranjana Shinde (2015, Microsoft), Saurabh Singh Maurya (2016, Riverbed technology), Yogendra Kushwah (2016, Infosys) Vipin S (2017), Sonali Saha (2017, Intel), Nikhil Rajendran (2018), Akshay Utture (2018, UCLA), Ajay Sharma (2019), Meghana Sistla (2019, Best DD project award, Microsoft), Ankur yadav (2020), Bokka Pradeep (2020), Rochak B (2021), Akshat Gupta (2021), Hemprakash Patidar (2022), Sanagala Venkata Sai Surya Prakash (2023), Amishi Panwar (2024), Rudrik Shah (2024), Chinmay Badjatya (2024), Anadi Sharma (2024).
Ongoing: Ravindra Bidwe (expected 2025), Kushagra Jain (expected 2025)
 - **UGRC/YRF/BTech project:** Completed: Arjun Bharat (2020). Sindhu Gunturi (2020-2021), Rushabh Lalwani (2021), Janam Supriya (2022), Niraj Kumar (2022), Rizan Mohammed Farooqui (2023), Chathurvedhi Talapaneni (2023), Dhruv Maroo (2023), Keerthana (2023), Saran Balachandran (2024), Niveeth A (2024), Chathur Bommineni (2024), Keerthana (2024).
Ongoing: Mohammed Abdul Muqeeth (expected 2025).

Service Activities

1. Editorial board member: Associate Editor, ACM TACO; Ex-associate editor, Sadhana.
2. Program Committee: Member APSEC 2006, Member ICIT 2007, Member IEEE RE 2007, Member QSIC 2010, Member ISED 2010, WHMC 2010, India Publicity Chair PACT 2011, Member I-CARE 2011, Program Committee co-chair ICCS 2012, Member I-CARE 2012, Member AD-COM 2012, Tutorial co-chair ICDCN 2013, Tutorial co-chair ICDCN 2014, PC Member and Tutorial co-chair ISEC 2014, PC Member SRS HiPC 2014, PC Member (software track) and Student Participation co-chair IPDPS 2015, Organising committee member INDOSYS 2015, PC Member FSTTCS 2015, PC Member APSEC 2015, PC Member ACM Compute 2015, PC Member ISEC 2016, PC Member ACM Compute 2016, ERC Member and Publicity Chair (India) PPOPP 2017, ERC Member and Publicity Chair (India) PPOPP 2018, PC Member CC 2019, ERC Member PACT 2019, PC Member HiPC 2019, PC Member Indosys 2019, Publicity co-chair (Asia) PPOPP 2020, PC member ICPP 2020, PC member SBLP 2020, PC member EVOKE CASCON 2020, PC member PACT 2021, PC member EVOKE CASCON 2021, PC member ISEC 2021, PC member CASES 2022, PC member EVOKE CASCON 2022, PC member ISEC 2023, PC member CASES

2023, PC member SC 2023, PC member EVOKE CASCON 2023, Publicity Co-chair ASPLOS 2024, PC member CGO 2024, PC member ISEC 2024, PC member PLDI 2024, PC member CASCON 2024, PC member CASES 2024, RC member OOPSLA 2024-25, PC member APLAS 2025, PC member MPLR 2025, PC member CASES 2025, PC member LCTES 2025.

3. ACM India elected council member (2014 - 2016)
4. Board of Studies member Shiv Nadar University (2025 -).
5. Board of Studies member Anna University (2021 -).
6. Board of Studies member Sri Padmavati Mahila Viswavidyalayam (2020 -).
7. Board of Studies member JNTU Kakinada (2008 - 2014).
8. Board of Studies member IIITDM Kancheepuram (2021 -).
9. Senate member IIITDM Kancheepuram (2021 - 2023).
10. Technical committee member for the free laptop scheme of Tamil Nadu government (2013-18, 2020 - 22).
11. Member of faculty selection committee (IIITDM Kancheepuram) 2022, 2023.
12. Member of faculty selection committee (VIT Vellore) 2023.

Institute service

1. Head, Dept of CSE (Oct 2022 -)
2. Faculty in charge e-services (Aug 2022 -2023)
3. Doctoral Committee (DC) chairman for PhD scholars of Dept of CSE, IIT Madras, joined in 2020.
4. Graduate Technical Committee (GTC) chairman for MS scholars of Dept of CSE, IIT Madras, joined in 2020.
5. Warden Saraswathi Hostel (from 2019 - 2021).
6. Faculty in charge HPCE, Computer Center (2016-2018).
7. Department Email service incharge (2014-18).
8. Member of Central Purchase Committee (CPC) IITM (2012-2016).
9. Set up PACE lab (with Madhu Mutyam) for MS and PhD students (in 2011).
10. Faculty advisor to MTech batches (2012-2014, 2014-2016) and BTech batches (2014-2018, 2016-2020, 2021-2025).