

RESUME of JAYANT R. HARITSA

**Department of Computational & Data Sciences
and
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A: EDUCATION and EXPERIENCE**EDUCATION**

<i>Degree</i>	<i>Institution</i>	<i>Year</i>
PhD (Computer Science)	U. of Wisconsin - Madison, USA	08/1991
MS (Computer Science)	U. of Wisconsin - Madison, USA	08/1987
BTech (Electronics)	IIT Madras, India	08/1985

EXPERIENCE

<i>Position</i>	<i>Institution</i>	<i>Period</i>
HAG Professor	Dept. of Computational & Data Sciences and Dept. of Computer Science & Automation Indian Institute of Science, Bangalore, India	09/2010 – to date
Professor	– ” –	09/2004 – 09/2010
Associate Professor	– ” –	12/1998 – 09/2004
Assistant Professor	– ” –	10/1992 – 12/1998
Dept. Chair	Dept. of Computer Science & Automation	08/2014 – 09/2017
Member, Research Staff	Microsoft Research India, Bangalore	08/2022 – 07/2023
Member, Research Staff	IBM India Research Labs, Bangalore	08/2012 – 07/2013
Member, Technical Staff	Bell Labs, Murray Hill, USA	08/1999 – 07/2000
Research Fellow	U. Maryland (College Park), USA	09/1991 – 09/1993

SPONSORED and CONSULTANCY PROJECTS

<i>Title</i>	<i>Sponsor</i>	<i>Role</i>	<i>Budget</i>	<i>Duration (years)</i>	<i>Status</i>
GPU-powered Database Engines	Microsoft Research India	PI	50 L	1 (2023-2024)	Ongoing
Database Research and Education	Huawei India	PI	36.5 L	0.5 (2021-2022)	Completed
OneQuery Database Performance	Huawei India	PI	25K USD	1 (2019-2020)	Completed
Robust Query Processing	DST(SERB)	PI	50 L	5 (2016-2020)	Completed
Database Design Audit	Oriental Insurance	PI	10 L	1 (2013)	Completed
Tightly Coupling Keyword Query Interfaces with Structured Database Repositories	DST (Indo-Brazil)	PI	41.7 L	3 (2010-2013)	Completed
Database Engine Design	xTreme Data	PI	4.6	1 (10/2005–09/2006)	Completed
Database Engine Design	Bell Labs	PI	4.6 L	1 (08/2005–07/2006)	Completed
Database Engines for Sequences	DST	PI	52.2 L	5 (1/2003-12/2007)	Completed
Computational Genomics, Genomics Initiative at IISc	DBT	Co-PI	163.9 L	5 (6/2002-5/2007)	Completed
RDBMS Internals	HP ISO	PI	3.0 L	8 days (2003)	Completed
Design and Implementation of a Biodiversity DBMS	DBT	PI	9.7 L	3 (9/1998-3/2001)	Completed
Design and Analysis of Data Mining Algorithms	Hitachi	PI	3.1 L	0.5 (12/1997-5/1998)	Completed
Minto: A Software Tool for Mining Manufacturing Databases	DST	PI	11.3 L	2 (01/1997-03/1999)	Completed
A Distributed Object-Oriented Simulation Testbed for Manufacturing Systems	DST	Co-PI	5.0 L	2 (12/1994-11/1996)	Completed
DIAS: An Object-Oriented Database for Interconnect Analysis	TI India	PI	2.7 L	1.5 (07/1995-12/1996)	Completed
MIDAS: A Database Design for Flexible Manufacturing Systems	DST	PI	9.1 L	2 (02/1995-01/1997)	Completed

*Additionally, **unrestricted research awards** totaling **USD 300000** have been received from IT multinationals, including *IBM, Microsoft, Google, Yahoo, HP, Oracle, Huawei, Bell Labs, Avaya, Sybase, Sanchez, Jovian Data*.

B: SCIENTIFIC RECOGNITION

HONORS

- President, ACM India Council, 2020-2022
- IISc Alumni Award for Excellence in Research for Engineering, 2015.
- Infosys Prize (Engineering and Computer Science), Infosys Science Foundation, 2014.
- ACCS CDAC Foundation Award, 2013.
- Distinguished Alumnus, Indian Institute of Technology (IIT) – Madras, 2012.
- Distinguished Scientist, Association of Computing Machinery (ACM), USA, 2009.
- Shanti Swarup Bhatnagar Prize (Engineering Sciences), CSIR, Govt. of India, 2009.
- Hari Om Ashram Prerit Dr. Vikram Sarabhai Research Award, PRL, Govt. of India, 2007.
- Swarnajayanti Fellowship (Engineering Sciences), DST, Govt. of India, 2001.
- Sir C.V. Raman Young Scientist Award (Computer Science), Govt. of Karnataka, 2001.

FELLOWSHIP

- J C Bose National Fellow, DST, Govt. of India, 2015.
- Fellow, Association of Computing Machinery (ACM), USA, 2015.
- Fellow, Institution of Electrical & Electronics Engineers (IEEE), USA, 2013.
- Fellow, Indian National Science Academy, India, 2020.
- Fellow, Indian Academy of Sciences, India, 2010.
- Fellow, Indian National Academy of Engineering, India, 2009.
- Fellow, National Academy of Sciences, India, 2006.

BEST PAPER

- Joint Best Paper in 23rd Intl. Conf. on Database Systems for Advanced Applications (DASFAA), Gold Coast, Australia, May 2018.
- Best Software Demonstration award in 40th Intl. Conf. on Very Large Data Bases (VLDB), September 2014.
- Best Software Demonstration award in 36th Intl. Conf. on Very Large Data Bases (VLDB), September 2010.
- Best Paper award in Intl. Conf. on Management of Data (COMAD), December 2000.
- Joint Best Paper Award (from 328 international submissions) in 24th Very Large Data Base (VLDB) Conference, New York, USA, August 1998.

STUDENTS

- Srinivas Karthik awarded Best Student Paper at 32nd IEEE Intl. Conf. on Data Engineering (ICDE), Helsinki, Finland, May 2016.
- Anshuman Dutt awarded Commendation Certificate by Dept. of Computer Science & Automation for Outstanding Doctoral Thesis, 2016-17
- Pooja Darera awarded Subramaniam Rajalakshmi Ammal Medal for Best MSc(Engg) Thesis, 2008-09.
- Harish D awarded Computer Society of India Medal for the best ME student in the CSA department, 2008.
- A. Kumaran awarded Sir Vithal N Chandavarkar Memorial Medal for Best PhD Thesis, 2006-07.
- Vikram Pudi awarded Prof B G Raghavendra Memorial Medal for Best PhD Thesis, 2003-04.

EDITORIAL BOARD

- ACM Books, USA (2022-2025)
- Proceedings of VLDB Endowment (PVLDB), VLDB Endowment (2012 – 2013).
- Journal of Computing, Computer Society of India (2011 – 2013).
- Very Large Data Base Journal (VLDBJ), Springer (2009 – 2015) .
- IEEE Transactions on Knowledge & Data Engineering (2009 – 2013).
- Intl. Journal of Distributed and Parallel Databases, Springer (2008 – 2020).
- Intl. Journal of Real-time Systems, Springer (1998 – 2010).
- IEEE Data Engineering Bulletin (2006 – 2007).

CONFERENCE CHAIR

- General Chair
 1. Joint Intl. Conf. on Data Science & Management of Data, CODS-COMAD 2021, Bangalore, India
 2. 17th Intl. Conf. on Management of Data, COMAD 2011, Bangalore, India
- Program Committee Chair
 1. 42nd Intl. Conf. on Very Large Data Bases (VLDB), New Delhi, India, 2016
 2. 26th IEEE Intl. Conf. on Data Engineering (ICDE), Los Angeles, USA, 2010
 3. 13th Intl. Conf. on Database Systems for Advanced Applications (DASFAA), New Delhi, India, 2008
 4. 11th Intl. Conf. on Management of Data (COMAD), Goa, India, 2005
- Program Committee Vice-Chair
 1. ACM Intl. Conf. on Management of Data, New York, USA, 2013
 2. 21st IEEE Intl. Conf. on Data Engineering (ICDE), Tokyo, Japan, 2005
 3. IEEE Intl. Conf. on Data Mining (ICDM), Omaha, USA, 2007
- Tutorials Chair
 1. 36th IEEE Intl. Conf. on Data Engineering (ICDE), Dallas, USA, 2020
 2. 19th Intl. World Wide Web Conf. (WWW), Raleigh, USA, 2010
 3. 10th Intl. Conf. on Database Systems for Advanced Applications (DASFAA), Beijing, China, 2005
 4. 12th Intl. Conf. on Management of Data (COMAD), Hyderabad, India, 2005
- Workshops Chair
 1. 39th IEEE Intl. Conf. on Data Engineering (ICDE), Anaheim, USA, April 2023
- Demonstrations Chair
 1. 34th Intl. Conf. on Very Large Data Bases (VLDB), Lyon, France, 2009

NAMED TALKS and KEYNOTES

- Keynote Address, "Robust Query Processing: Where Geometry Beats ML", EDBT Conference, Greece, March 2023.
- Keynote Address, "Shedding Light on Opaque Database Queries", Cods-Comad Conference, Bangalore, January 2022.
- Plenary Lecture, "Data Science: The Good, the Bad and the Ugly ", IISER Bhopal, January 2020.
- 8th Roddam Narasimha Lecture, "Data Science: The Good, the Bad and the Ugly ", IIT Gandhinagar, August 2019.
- Chief Guest Convocation Address, Dept. of CSE, IIT Bombay, August 2018.
- Ramanujan Distinguished Lecture Series, "Drawing Out the Artistic Talents of Database Query Optimizers", C R Rao AIMSCS Univ. of Hyderabad, February 2016.
- Keynote Address, "Plan Bouquets: A Fragrant Approach to Robust Query Processing", ACM Compute Conference, Ghaziabad, October 2015.

- Keynote Address, “Plan Bouquets: A Fragrant Approach to Robust Query Processing”, CMG India Conference, Pune, December 2014.
- Keynote Address, “Drawing Out the Artistic Talents of Database Query Optimizers”, 8th International Multi-conference on Information Processing, Bangalore, July 2014.
- Keynote Address, “Plan Bouquets: A Fragrant Approach to Robust Query Processing”, South Asia Workshop on Research Frontiers in Computing, Singapore, May 2014.
- Keynote Address, “Big Data, Small Testing”, ADCOM 2013, Chennai, India, October 2013.
- Keynote Address, “Big Data (Size does Matter)”, Parasparam, HP Global Soft, Bangalore, India, October 2011.
- Keynote Address, “Big Data (Size does Matter)”, Parasparam, HP Global Soft, Bangalore, India, October 2011.
- Keynote Address, “Drawing Out the Artistic Talents of Database Query Optimizers”, 26th Brazilian Symposium on Databases (SBBD), Florianopolis, Brazil, October 2011.
- Keynote Address, “Drawing Out the Artistic Talents of Database Query Optimizers”, 12th Intl. Conf. on Management of Data (COMAD 2005b), Hyderabad, India, December 2005.
- 3rd Informatics Endowment Lecture Series on Digital Libraries, “Privacy-Preserving Data Mining”, Univ. of Mysore, August 2004.
- N. Rama Rao Distinguished Lecture, “Reducing Query Optimization Overheads through Plan Recycling”, Dept. of Computer Science and Engineering, IIT Kanpur, April 2003.
- N. Rama Rao Distinguished Lecture, “Turbocharging Vertical Mining of Large Databases”, Dept. of Computer Science and Engineering, IIT Kanpur, February 2001.

C: PROFESSIONAL ACTIVITIES

SCIENTIFIC BOARD

- Member, Technical Advisory Board, Microsoft Research India, 2022-2024
- Convenor, Sectional Committee on Engineering & Technology, Indian Academy of Sciences (2019-2021)
- Member, Sectional Committee on Engineering & Technology, Indian Academy of Sciences (2016-2018)
- Member, Sectional Committee on Computer Engineering and Information Technology, Indian National Academy of Engineering (2013-2015, 2019)
- Member, Sectional Committee on Physical Sciences, National Academy of Sciences, India (2019-2022)
- Member, ACM India Council (2018–2022)
- Trustee, VLDB Endowment Board (2014–2019)
- Member, Board of Studies, School of Computer Science, Jawaharlal Nehru University (2015–2018)
- Member, Executive Committee, IEEE Computer Society (Bangalore Chapter), (2010–2012)
- Member, Technical Advisory Board, 3iInfotech, Mumbai (2008–2010)
- Member, Board of Studies, Intl. School of Information Management (ISIM), Mysore University (2006–2008)
- Member, Board of Studies, Computer Science, Goa University (1999–2002)
- Member, Scientific Advisory Board, Cytogenomics Pvt. Ltd., Bangalore (2003)

INVITED TUTORIALS

1. “Synthetic Database Generation for Enterprise DBMS”
 - 39th Intl. Conf. on Data Engineering (ICDE), Anaheim, USA, April 2023
2. “Robust Query Processing: Mission Possible”
 - 46th Intl. Conf. on Very Large Data Bases, Tokyo, Japan, August 2020
3. “Robust Query Processing: Mission Possible”
 - ACM India Jt. Intl. Conf. on Data Science & Management of Data (CODS-COMAD), Hyderabad, India, January 6, 2020
4. “Robust Query Processing: Mission Possible”
 - 35th IEEE Intl. Conf. on Data Engineering (ICDE), Macau, China, April 11, 2019
5. “Query Optimizer Plan Diagrams: Production, Reduction and Applications”
 - 27th IEEE Intl. Conf. on Data Engineering (ICDE), Hanover, Germany, April 14, 2011
6. “The Strange and Wondrous Ways of Industrial-Strength Database Query Optimizers”
 - 15th Intl. Conf. on Management of Data (COMAD), Mysore, December 11, 2009
7. “Multi-lingual Databases”
 - 11th Intl. Conf. on Database Systems for Advanced Applications (DASFAA), Singapore, April 12, 2006
 - 13th Intl. Conf. on Management of Data (COMAD), New Delhi, December 14, 2006
8. “XML Databases”
 - VLDB Summer School, New Delhi, June 2, 2004
 - VLDB Summer School, Bangalore, June 9, 2004
9. “Real-time Database Systems”
 - Workshop of the Indian Database Research Community, Pune, May 12, 1999
10. “Relational Query Languages”
 - CDAC Workshop on Relational Database Technology, Bangalore, April 28, 1994
11. “An Introduction to Relational Database Management Systems”
 - CDAC Workshop on Relational Database Technology, Bangalore, April 28, 1994
12. “An Overview of Real-Time Systems”
 - Aeronautical Development Establishment, Bangalore, April 6/7, 1993
 - Aeronautical Development Establishment, Bangalore, September 23/25, 1993

PROGRAM COMMITTEE

Intl. Conf. on Extending Database Technology (EDBT) [Industrial]: 2012
Intl. Workshop on Business Intelligence for the Real Time Enterprise (BIRTE): 2008
Intl. Workshop on Testing Database Systems (DBTEST): 2008
ACM Intl. Conf. on Information and Knowledge Management (CIKM): 2008
ACM SIGMOD Intl. Conf. on Management of Data (SIGMOD): 2004, 2007
Intl. Conf. on Very Large Data Bases (VLDB): 1996, 1997, 2002, 2003, 2004, 2005, 2006, 2007, 2010
Intl. Conf. on Extending Database Technology (EDBT): 2006
IEEE Intl. Conf. on Data Engineering (ICDE): 1996, 2008
Intl. World Wide Web Conf. (WWW): 2004
Intl. Workshop on the Web and Databases (WebDB): 2003
ACM SIGKDD Workshop on Data Mining in Bioinformatics (BIOKDD): 2004, 2005
Pacific Asia Conf. on Knowledge Discovery and Data Mining (PAKDD): 2001, 2002, 2003
Intl. Workshop on Research Issues in Data Engineering (RIDE): 2003
IEEE Real-Time Technology and Applications Symposium (RTAS): 2001
Intl. Conf. on Database Systems for Advanced Applications (DASFAA): 2001
Intl. Conf. on Parallel and Distributed Information Systems (PDIS): 1996
Intl. Workshop on Databases in Networked Information Systems (DNIS): 2000
Intl. Conf. on Management of Data (COMAD): 1994, 1995, 2000, 2008
IEEE Real-Time Systems Symposium (RTSS): 1994

D: PUBLICATIONS and COPYRIGHTS

THESES

1. "Transaction Scheduling in Firm Real-Time Database Systems"
J. Haritsa
PhD Thesis, University of Wisconsin (Madison), USA, August 1991
2. "Adaptive Delta Pulse-Code Modulation"
J. Haritsa
BTech Thesis, Indian Institute of Technology (Madras), India, August 1985

EDITOR of SPECIAL ISSUE

3. "Privacy and Trust Management in Cloud and Distributed Systems"
S. Cheung, Y. Sun, K. Aberer, J. Haritsa, B. Horne and K. Hwang
IEEE Transactions on Information Forensics and Security (TIFS), 8(6), June 2013
4. "Testing and Tuning of Database Systems"
J. Haritsa
IEEE Data Engineering Bulletin, 31 (1), March 2008
5. "Multi-lingual Information Systems"
J. Haritsa
IEEE Data Engineering Bulletin, 30 (1), March 2007
6. "Real-Time Database Systems in the New Millenium"
J. Haritsa and K. Ramamritham
Journal of Real-Time Systems, 19 (3), November 2000, pgs. 205-208

BOOK CHAPTERS

7. "Privacy Issues in Association Rule Mining"
A. Gkoulalas-Divanis, M. Kantarcioglu and J. Haritsa
Frequent Pattern Mining, Springer,
eds. J. Han and C. Aggarwal, 2014, Chapter 15, pgs. 369-401
8. "Mining Association Rules under Privacy Constraints"
J. Haritsa
Privacy-Preserving Data Mining: Models and Algorithms, Springer,
eds. C. Aggarwal and P. Yu, 2008, Chapter 10, pgs. 237-264
9. "Real-Time Index Concurrency Control"
J. Haritsa and S. Seshadri
Real-time Database Systems: Architecture and Techniques, Kluwer Academic Publishers, vol. 593, Kluwer International Series in Engineering and Computer Science,
eds. Tei-Wei Kuo and Kam-Yiu Lam, November 2000, Chapter 6, pgs. 59-74
10. "Secure Real-Time Transaction Processing"
J. Haritsa and B. George
Real-time Database Systems: Architecture and Techniques, Kluwer Academic Publishers, vol. 593, Kluwer International Series in Engineering and Computer Science,
eds. Tei-Wei Kuo and Kam-Yiu Lam, November 2000, Chapter 11, pgs. 143-160
11. "Real-Time Commit Processing"
J. Haritsa, K. Ramamritham and R. Gupta
Real-time Database Systems: Architecture and Techniques, Kluwer Academic Publishers, vol. 593, Kluwer International Series in Engineering and Computer Science,
eds. Tei-Wei Kuo and Kam-Yiu Lam, November 2000, Chapter 17, pgs. 229-246
12. "Firm Real-Time Concurrency Control"
J. Haritsa, M. Carey and M. Livny
Performance of Concurrency Control Mechanisms in Centralized Database Systems,
Prentice-Hall, ed. V. Kumar, October 1995, Chapter 17, pgs. 461-493
13. "Dynamic Real-Time Optimistic Concurrency Control"
J. Haritsa, M. Carey and M. Livny
Advances in Real-Time Systems, IEEE Computer Society Press,
eds. J. Stankovic and K. Ramamritham, October 1993, Chapter 9, pgs. 664-673

INTERNATIONAL REFEREED JOURNALS

14. "A Case for Graphics-driven Query Processing"
H. Doraiswamy, V. Kalagi, K. Ramachandra and J. Haritsa
PVLDB Journal, vol. 16, no. 10, June 2023 (in press)
15. "Projection-Compliant Database Generation"
A. Sanghi, S. Ahmed and J. Haritsa
PVLDB Journal, vol. 15, no. 5, January 2022, pgs. 998-1010
16. "UNMASQUE: A Hidden SQL Query Extractor"
K. Khurana and J. Haritsa
PVLDB Journal, 13(12), August 2020, pgs. 2809-2812 (demo)
17. "Operator Implementation of Result Set Dependent KWS Scoring Functions",
Vinay M. S. and J. Haritsa
Information Systems, vol. 89 (101465), March 2020
18. "Collusion-Resistant Processing of SQL Range Predicates"
M. Kesarwani, A. Kaul, G. Singh, P. Deshpande and J. Haritsa
Data Science & Engineering, Springer, vol. 3, no. 4, December 2018, pgs. 323-340
19. "Platform-independent Robust Query Processing"
S. Karthik, J. Haritsa, S. Kenkre, V. Pandit and L. Krishnan
IEEE Trans. on Knowledge and Data Engineering (TKDE), vol. 31, no. 1, January 2019, pgs. 17-31
20. "A Concave Path to Low-overhead Robust Query Processing"
S. Karthik, J. Haritsa, S. Kenkre and V. Pandit
PVLDB Journal, vol. 11, no. 13, September 2018, pgs. 2183-2195
21. "HYDRA: A Dynamic Big Data Regenerator"
A. Sanghi, R. Sood, D. Singh, J. Haritsa and S. Tirthapura
PVLDB Journal, vol. 11, no. 12, August 2018, pgs. 1974-1977 (demo)
22. "Plan Bouquets: A Fragrant Approach to Robust Query Processing"
A. Dutt and J. Haritsa
ACM Trans. on Database Systems (TODS), vol. 41, no. 2, June 2016, pgs. 11:1-11:37
23. "CODD: A Dataless Approach to Big Data Testing"
Ashoke S. and J. Haritsa
PVLDB Journal vol. 8, no. 12, August 2015, pgs. 2008-2011
24. "QUEST: An Exploratory Approach to Robust Query Processing"
A. Dutt, S. Neelam and J. Haritsa
PVLDB Journal vol. 7, no. 13, August 2014, pgs. 1585-1589
25. "The Picasso Database Query Optimizer Visualizer"
J. Haritsa
PVLDB Journal vol. 3, no. 2, September 2010, pgs. 1517-1520
26. "On the Stability of Plan Costs and the Costs of Plan Stability"
M. Abhirama, S. Bhaumik, A. Dey, H. Shrimal and J. Haritsa
PVLDB Journal vol. 3, no. 1, September 2010, pgs. 1137-1148
27. "FRAPP: A Framework for High-Accuracy Privacy-Preserving Mining"
S. Agrawal, J. Haritsa and B. Prakash
Intl. Journal on Data Mining and Knowledge Discovery, Springer, vol. 18, no. 1, February 2009, pgs. 101-139
28. "Identifying Robust Plans through Plan Diagram Reduction"
Harish D., P. Darera and J. Haritsa
PVLDB Journal vol. 1, no. 1, August 2008, pgs. 1124-1140
29. "Efficiently Approximating Query Optimizer Plan Diagrams"
A. Dey, S. Bhaumik, Harish D. and J. Haritsa
PVLDB Journal vol. 1, no. 2, August 2008, pgs. 1325-1336
30. "Schema-conscious XML Indexing"
K. Leela and J. Haritsa
Information Systems, Elsevier Science Publishers, vol. 32, no. 2, April 2007, pgs. 344-364
31. "The Building of BODHI, a Bio-diversity Database System"
B. Srikanta, J. Haritsa and U. Sen
Information Systems, Elsevier Science Publishers, (Special Issue on Bioinformatics and Biological Data Management, Editors: M. Zaki and J. Wang), vol. 28, no. 4, June 2003, pgs. 347-367

32. “MIRROR: A State-Conscious Concurrency Control Protocol for Replicated Real-Time Databases”
M. Xiong, K. Ramamritham, J. Haritsa and J. Stankovic
Information Systems, Elsevier Science Publishers, vol. 27, no. 4, June 2002, pgs. 277–297
33. “On-line Scheduling to Maximize Task Completions”
S. Baruah, J. Haritsa and N. Sharma
Journal of Combinatorial Mathematics and Combinatorial Computing (JCMCC), vol. 39, 2001, pgs. 65–78
34. “DIASPORA: A Highly Distributed Web-Query Processing System”
M. Ramanath and J. Haritsa
World Wide Web Journal, Special Issue on WWW Data Management, Baltzer Science Publishers, vol. 3, no. 2, 2000, pgs. 111-124
35. “Quantifying the Utility of the Past in Mining Large Databases”
V. Pudi and J. Haritsa
Information Systems, Elsevier Science, vol. 25, no. 5, July 2000, pgs. 323–343
36. “Real-Time Index Concurrency Control”
J. Haritsa and S. Seshadri
IEEE Trans. on Knowledge and Data Engineering (TKDE), vol. 12, no. 3, May/June 2000, pgs. 429–447
37. “Secure Buffering in Firm Real-Time Database Systems”
B. George and J. Haritsa
Intl. Journal on Very Large Data Bases (VLDB), Special Issue on Best Papers from VLDB’98 Conference, Springer-Verlag, vol. 8, no. 3, February 2000, pgs. 178–198
38. “The PROMPT Real-Time Commit Protocol”
J. Haritsa, K. Ramamritham and R. Gupta
IEEE Trans. on Parallel and Distributed Systems (TPDS), vol. 11, no. 2, February 2000, pgs. 160–181
39. “Secure Concurrency Control in Firm Real-Time Database Systems”
B. George and J. Haritsa
Intl. Journal on Distributed and Parallel Databases (JDPD), Special Issue on Security, Kluwer Academic Publishers, vol. 8, no. 1, January 2000, pgs. 41–83
40. “Scheduling for Overload in Real-Time Systems”
S. Baruah and J. Haritsa
IEEE Trans. on Computers (ToC), vol. 46, no. 9, September 1997, pgs. 1034–1039
41. “Integrating Standard Transactions in Firm Real-Time Database Systems”
S. Thomas, S. Seshadri and J. Haritsa
Information Systems, Elsevier Science, vol. 21, no. 1, March 1996, pgs. 3–28
42. “Real-Time Index Concurrency Control”
J. Haritsa and S. Seshadri
ACM SIGMOD Record, vol. 25, no. 1, March 1996, pgs. 13–17
43. “MANDATE: Managing Networks using Database Technology”
J. Haritsa, M. Ball, N. Roussopoulos, A. Datta and J. Baras
IEEE Journal on Selected Areas in Communications (JSAC), vol. 11, no. 9, December 1993, pgs. 1360–1372
44. “Distributed Concurrency Control based on Limited Wait-Depth”
P. Franaszek, J. Haritsa, J. Robinson and A. Thomasian
IEEE Trans. on Parallel and Distributed Systems (TPDS), vol. 4, no. 11, November 1993, pgs. 1246–1264
45. “Value-Based Scheduling in Real-Time Database Systems”
J. Haritsa, M. Carey and M. Livny
Intl. Journal on Very Large Data Bases (VLDB), Springer-Verlag, vol. 2, no. 2, April 1993, pgs. 117–152
46. “Data Access Scheduling in Firm Real-Time Database Systems”
J. Haritsa, M. Carey and M. Livny
Journal of Real-Time Systems, Kluwer Academic Publishers, vol. 4, no. 4, September 1992, pgs. 203–241

INTERNATIONAL REFEREED CONFERENCES (A+ rank)

47. “Shedding Light on Opaque Application Queries”
K. Khurana and J. Haritsa
Proc. of ACM SIGMOD Intl. Conf. on Management of Data, Xi’an, China, June 2021, pgs. 912-924
48. “Platform-independent Robust Query Processing”
S. Karthik, J. Haritsa, S. Kenkre and V. Pandit
Proc. of 32nd IEEE Intl. Conf. on Data Engineering (ICDE), Helsinki, Finland, May 2016, pgs. 325-336

49. "Plan Bouquets: Query Processing without Selectivity Estimation"
A. Dutt and J. Haritsa
Proc. of 33rd ACM SIGMOD Intl. Conf. on Management of Data (SIGMOD), Snowbird, USA, June 2014, pgs. 1039-1050
50. "IceCube: Efficient Targeted Mining in Data Cubes"
S. Harsola, P. Deshpande and J. Haritsa
Proc. of 23rd IEEE Intl. Conf. on Data Mining (ICDM), Brussels, Belgium, December 2012, pgs. 894-899
51. "On the Production of Anorexic Plan Diagrams"
Harish D., P. Darera and J. Haritsa
Proc. of 33rd Intl. Conf. on Very Large Data Bases (VLDB), Vienna, Austria, September 2007, pgs. 1081-1092
52. "Robust Heuristics for Scalable Optimization of Complex SQL Queries"
G. Das and J. Haritsa
Proc. of 23rd IEEE Intl. Conf. on Data Engineering (ICDE), Istanbul, Turkey, April 2007, pgs. 1281-1283 (poster)
53. "On Pushing Multilingual Query Operators into Relational Engines"
A. Kumaran, P. Chowdary and J. Haritsa
Proc. of 22nd IEEE Intl. Conf. on Data Engineering (ICDE), Atlanta, USA, April 2006
54. "Analyzing Plan Diagrams of Database Query Optimizers"
N. Reddy and J. Haritsa
Proc. of 31st Intl. Conf. on Very Large Data Bases (VLDB), Trondheim, Norway, August 2005, pgs. 1228-1240
55. "A Framework for High-Accuracy Privacy-Preserving Mining"
S. Agrawal and J. Haritsa
Proc. of 21st IEEE Intl. Conf. on Data Engineering (ICDE), Tokyo, Japan, April 2005, pgs. 193-204
56. "IMAX: Incremental Maintenance of Schema-based XML Statistics"
M. Ramanath, L. Zhang, J. Freire and J. Haritsa
Proc. of 21st IEEE Intl. Conf. on Data Engineering (ICDE), Tokyo, Japan, April 2005, pgs. 273-284
57. "On Semantic Matching of Multilingual Attributes in Relational Systems"
A. Kumaran and J. Haritsa
Proc. of 13th ACM Intl. Conf. on Information and Knowledge Management (CIKM), Washington DC, USA, November 2004, pgs. 230-231 (poster)
58. "Green Query Optimization: Taming Query Optimization Overheads through Plan Recycling"
P. Sarda and J. Haritsa
Proc. of 30th Intl. Conf. on Very Large Data Bases (VLDB), Toronto, Canada, September 2004, pgs. 1333-1336 (demo)
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91. "Scalable and Dynamic Regeneration of Big Data Volumes"
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132. "Turbo-charging Database Query Processing and Testing"
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Comm. of the ACM (CACM), 62 (11), November 2019, pgs. 48-49
133. "Robust Query Processing in Database Systems"
 J. Haritsa
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134. "A Case for Database Engine Research"
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135. "PLAN DIAGRAMS: Visualizing Database Query Optimizers"
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139. "A Holistic XML-to-RDBMS Mapper (Demonstration)"
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142. "Robust Query Processing: A Case for Geometric Techniques"
 J. Haritsa
ACM SIGMOD Blog, No. 3403, March 24, 2022
143. "Reminiscences on Influential Papers"
 J. Haritsa
ACM SIGMOD Record, vol. 34, no. 2, June 2005, pg. 68
144. "Database Mining"
 J. Haritsa
RESONANCE, Journal of Science Education, vol. 1, no. 10, October 1996, pgs. 63–75
145. "An Ivory Tower View of Software Property Rights"
 S. Tripathi and J. Haritsa
Proc. of Intl. Conf. on Intellectual Property Rights in Computer Software and their Impact on Developing Countries, Bangalore, India, August 1993, pgs. 46–48

SOFTWARE COPYRIGHTS

- Copyright Ownership received for “*CODD Metadata Processor*” software from Copyright Office, Govt. of India, issued on September 10, 2013 [Registration No. SW-7063/2013].

This software has been licensed to several institutions world-wide, including major database companies such as HP, Huawei and TCS.

- Copyright Ownership received for “*Picasso Database Query Optimizer Visualizer*” software from Copyright Office, Govt. of India, issued on May 1, 2006 [Registration No. SW-2016/2006].

This software has been licensed to over a hundred institutions world-wide, including major database companies such as IBM, Microsoft, Oracle, Sybase, HP and HCL, as well as premier educational institutions such as Carnegie Mellon, Purdue, Duke, TU Munich, NUS Singapore and IIT Bombay.

E: STUDENT RESEARCH THESES**Doctor of Philosophy (PhD)**

1. “Quantum Relational Databases”
Anupam Sanghi (ongoing)
2. “HYDRA: A Dynamic Approach to Database Regeneration”
Anupam Sanghi (December 2022)
3. “Geometric Search Techniques for Provably Robust Query Processing”
Srinivas Karthik (December 2019)
4. “Plan Bouquets: An Exploratory Approach to Robust Query Processing”
Anshuman Dutt (August 2016) [received CSA Commendation Certificate]
5. “Caching Techniques for Dynamic Web Servers”
Suresha (June 2007)
6. “BODHI: A Database Engine for Biological Applications”
B. J. Srikanta (April 2006)
7. “Schema-based Statistics and Storage for XML”
M. Ramanath (April 2006)
8. “Multilingual Information Processing on Relational Database Architectures”
A. Kumaran (December 2005) [received IISc Best Thesis award]
9. “Efficient Discovery of Concise Association Rules from Large Databases”
Vikram Pudi (April 2003) [received IISc Best Thesis award]
10. “Secure Real-Time Transaction Processing”
Binto George (December 1998) [nominated for IISc Best Thesis award]

Master of Science (Engineering) (MSc(Engg))

1. “Enhancing Coverage and Robustness of Database Generators”
Rajkumar S (November 2021)
2. “Enhancing Blockchain Implementations”
Hemant Kumar (June 2021)
3. “Revisiting Statistical Techniques for Result Cardinality Estimation”
Dhrumilkumar Utpalbhair Shah (June 2021)
4. “Balancing Money and Time for OLAP Queries on Cloud Databases”
Rafia Sabih (November 2016)
5. “Towards Designing PCM-Conscious Database Systems”
Vishesh Garg (March 2016)
6. “Exploring the Semantics of Plan Diagrams”
Bruhathi H S (February 2012)
7. “Optimizing Suffix Tree Layouts”
Rajul Bhavsar (August 2011)
8. “Efficiently Approximating Query Optimizer Diagrams”
Areyee Dey (August 2009)
9. “Reduction of Query Optimizer Plan Diagrams”
Pooja Darera (December 2007) [received Best Thesis award]
10. “On Holistic Source-Centric Mappings for XML-on-RDBMS”
Priti Patil (September 2005)
11. “Distributed Web Query Processing Systems”
Maya Ramanath (March 2000)
12. “Commit Processing in Distributed Real-Time DBMS”
Ramesh Kumar Gupta (July 1997) [nominated for IISc Best Thesis award]
13. “Design and Implementation of An OODBMS for VLSI Interconnect Parasitic Analysis”
N. S. Arun (July 1996) [nominated for IISc Best Thesis award]