

Curriculum Vitae

Amitava Datta

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Qualifications

1. Ph.D. (Computer Science)
Indian Institute of Technology, Madras, 1992.
2. M.Tech. (Computer Science)
Indian Institute of Technology, Madras, 1988.
3. M.Sc. (Physics)
Indian Institute of Technology, Kanpur, 1985.
4. B.Sc. (Hons)(Physics)
Calcutta University, Calcutta, India, 1983.

Employment

- Professor, since January 1, 2009, at the University of Western Australia.
- Associate Professor, 2002-2008, at the University of Western Australia
- IVEC/APAC Education Programme Leader, July 2002 - December 2006.
This was a fractional appointment on secondment from my position at UWA. IVEC (Interactive Virtual Environments Centre) is the Western Australian partner in APAC (Australian Partnership in Advanced Computing).
- Senior Lecturer, February, 2000 - June 2002, at the University of Western Australia.
- Lecturer, January, 1998 - January 2000, at the University of Western Australia.

- Lecturer, July, 1995 - December 1997, at the University of New England, Armidale, Australia.
- Visiting Research Fellow, Universität Freiburg, Germany, March 1994-December 1994.
- Visiting Research Fellow, FernUniversität Hagen, September 1993-February 1994.
- Post Doctoral Fellow, Max Planck Institut für Informatik, Germany, August 1992-August 1993.
- Post Doctoral Fellow, Institute for Mathematical Sciences, Madras, India, April 1992-July 1992.

Awards

- Awarded commendation by the Vice Chancellor and Student Guild as an outstanding honours thesis supervisor at University of Western Australia in 2000.
- Nominated for the Excellence in Postgraduate Research Supervision Award in 2003, 2005 and 2009.
- IVEC/APAC Education Programme Leader during the period July 2002- December 2006.
- Professor of Telematics and Networking at Institut für Informatik, Albert-Ludwigs-Universität Freiburg, Germany, January-May, 2005 (during study leave).
- DAAD fellowship as a visiting professor at the Institut für Informatik, Albert-Ludwigs-Universität Freiburg, Germany, 2001 (during study leave).

Research interests

- Wireless and ad hoc networks,
- Bioinformatics,
- Computer graphics and information visualization,
- Parallel and distributed systems

PhD supervision

Completed students

- Dr. Gian Paolo Lorenzetto : *New trapezoidation techniques and their applications in GIS and computer graphics*, graduated in 2003.
- Dr. Kesaraporn Techapichetvanich : *A visualization framework for exploring correlations among attributes of a large dataset and its applications in data mining*, graduated in 2007.
- Dr. Chris Gunn : *Using haptics in a networked immersive 3D environment*, graduated with **Distinction** in 2007.
- Dr. Winnie Louis Lee : *Flexible schedule-based TDMA protocols for supporting fault-tolerance, on-demand TDMA slot transfer, and peer-to-peer communication in wireless sensor networks*, graduated in 2007.
- Dr. Chris Thorne : *Origin-centric techniques for optimising scalability and the fidelity of motion, interaction and rendering*, graduated in 2008.
- Dr. Babak Pazand : *Energy-efficient node scheduling schemes in wireless sensor networks without location information*, graduated in 2008.
- Dr. Anthony Prior : *Real-time volumetric haptics*, graduated in 2008.
- Dr. John Darrington : *Real time extraction of ECG Fiducial points using shape based detection*, graduated in 2009.
- Dr. Valance Phua : *A communication protocol framework for wireless sensor networks in industrial environments*, graduated in 2009.
- Dr. Jason Wong : *Realistic real-time animation of small plants*, graduated in 2009.
- Dr. Tzu Yen Wong : *Image transition techniques using projective geometry*, graduated in 2009.
- Ms. Minh Tran : *Pixel and patch-based synthesis of textures using image segmentation*, under examination.

Current PhD students

- Mr. Jonathan Knispel : *A new 3D immersive user interface*
- Mr. Nicholas Lowe : *A new technique for portal rendering and its applications*
- Ms. Jana Sperschneider : *Heuristic RNA pseudoknot detection in long sequences based on stem-loop correlated energy modelling*
- Mr. James Strauss : *Accelerated view-dependent level-of-details, with applications*

Current Masters by research students

- Mr. Amer Filipovic : *Utilizing topology information for efficient routing in ad hoc mobile networks*
- Ms. Lanny Sitanayah : *Efficient centralized and distributed algorithms for accurate boundary detection and object tracking in wireless sensor networks*

Honours and Masters supervision

Honours (Fourth year undergraduate) projects

- Mr. Steven Yang : Animation of algorithms (1998)
- Mr. Paul Foss : Civil Engineering applications in high performance Fortran (1998)
- Mr. Ching Tan : A real time network game engine (1998)
- Mr. Nelson De Castro Cruz : Designing a web form : A systems analysis approach (1998)
- Mr. Steven Pegg : Advanced algorithms for 3D terrain graphics (1999)
- Mr. Simon Palmer : A simulator for robot path planning with incomplete information (1999)
- Mr. Joseph Woo : IT strategies for a small business (A CEED project) (1999)
- Mr. Hooi Lit Ng : Design and code-optimisation of parallel algorithms in Joyce/Linda (1999)
- Mr. Sui Wai Ray Wong : Animation of sorting algorithms (1999)
- Mr. Andrew Lewis : A simulator for the linear array with a reconfigurable pipelined bus system (2000)
- Mr. Nicholas Lowe : A discrete and object oriented approach to real-time rendering (2000)
- Mr. James Strauss : Polygonal model simplification using hierarchical vertex clustering (2000)
- Mr. Meng Seet : The oriented tribox : A bounding volume for complex objects (2000)
- Mr. Amer Filipovic : Energy efficiency of ad hoc routing protocols (2002)
- Mr. Chris Williams : Energy-efficient permutation routing protocols in radio networks (2002)
- Ms. Minh Tran : Object structure recovery from multiple views (2002)
- Mr. Anthony Prior : A parallel algorithm for Euclidean distance transform on a network of workstations (2002)

- Mr. Jason Wong : Real-time rendering of realistic water (2002)
- Mr. Mohamed Khaireel Ahmad : Knowledge-based and rule-based techniques for constraints satisfaction in manpower allocation (2002)
- Mr. Justin Ebedes : A parallel algorithm for multiple sequence alignment (2002)
- Mr. Putra Adhitama : A parallel approach to the computation of medial axis transform (2003)
- Ms. I-Hsiu Chen : Hierarchical level of details for coloured models (2003)
- Mr. Robert Caswell : Exploring the energy efficiency of the DSR protocol (2003)
- Mr. Tristan Cameron : Denoising shape from shading in parallel (2003)
- Mr. Raal Goff : WiCTP: A token-based access control mechanism for wireless networks (2004)
- Mr. Zee Gong : Compact algorithm for multi-hop Bluetooth scatternets (2004)
- Mr. Philip Hagen : Faster 3D silhouette computation for polygonal models (2004)
- Mr. Valance Phua : A low-latency fault-tolerant protocol for mobile IP in wireless systems (2004)
- Mr. Shen Zhang : A MAC protocol for static wireless networks using directional antenna (2004)
- Mr. Bobby Chu : Tree structures in fault detection of large sensor networks (2004)
- Mr. Ibrahim Abdul Rahim : Fault-tolerant routing algorithm for wireless sensor networks (2004)
- Mr. Iavor Georgeff : A distributed topology discovery algorithm for wireless sensor networks (2004)
- Mr. Poya Manouchehri : Real-time rendering and animation of small soft-stemmed plants (2004)
- Mr. Kwan Hui Lim : Performance enhancement of the TORA protocol (2007)
- Mr. Ronald Lie : BioPath3D - a visualization framework for biological pathways (Mechatronic Engineering) (2007)
- Mr. Adam Neumann : Parallel reduction of multidimensional arrays for supporting online analytical processing (OLAP) on a graphics processing unit (GPU) (2008)
- Mr. Shin Kee Chung : GPU-accelerated algorithms for gravitational wave detection (2008)
- Mr. Dulnuwan Wimalatissa : Modelling biological pathways in a navigable three dimensional space (2008)

Masters by coursework

- Mr. M. Shahidul Alam : Location and calculation-free node scheduling scheme for wireless sensor networks (2005)
- Mr. Saman DeSilva : TCP in multirate ad-hoc mobile wireless networks (2007)
- Mr. Syed Ali Hussain : Scalable and efficient routing protocol for wireless mesh networks (2007)
- Mr. Martin Ip : Using AODV protocol for mobile ad hoc access networks (2007)
- Ms. Anny Yuniarti : 3D shape reconstruction from noisy photometric stereo (2007)
- Ms. Dzivi Ps : Biological sequence alignment using graphics processing units (GPU) (2008)

Masters students from Germany (as exchange students)

- Mr. Oliver Korff : Optimizing RNA pseudoknot prediction using neural networks (University of Konstanz, 2007)
- Ms. Jana Sperschneider : A new algorithm for detecting pseudoknots in RNA sequences (University of Freiburg, 2007)

Courses taught

University of Western Australia

- Computer Networks
- Concurrent programming
- Introduction to computer graphics
- Mobile and wireless computing
- Object oriented programming
- Operating systems
- Programming language implementation
- Programming structures : applications
- Scientific Communication

University of Freiburg, Germany

- Parallel algorithms and applications
- Mobile and wireless computing
- Advanced topics in algorithms and data structures

University of New England

- Software engineering
- Parallel computing
- C programming
- Decision support systems
- Database systems

Multimedia courses

- A. Datta, “Parallel Algorithms and Applications”, VIROR (Virtual University of the Upper Rhine Valley), 2001 Course taught at Computer Science Institute, University of Freiburg, Germany, 2001.
<http://ad.informatik.uni-freiburg.de/lehre/ss02/paa/index.html>
- A. Datta, “Mobile and wireless computing”, Multimedia lectures delivered at the Institut für Informatik, University of Freiburg.
<http://ad.informatik.uni-freiburg.de/lehre/ws0304/mobilecomputing/>
- A. Datta and T. Ottmann, “Advanced Topics in Algorithms and Data Structures”, Universitärer Lehrverbund Informatik. I contributed these lectures as a visiting professor at University of Freiburg which is a member of a consortium of universities in Germany for developing courseware in computer science.
<http://ad.informatik.uni-freiburg.de/lehre/ss05/aad/>

Research grants received

- Australian Research Council, Infrastructure Grant to establish a supercomputer facility at UWA in collaboration with Murdoch University and Curtin University of Technology, in 2006
Project title : Western Australian Supercomputer Programme (WASP)
Amount : \$1,362,295.
- National Health and Medical Research Council (NHMRC)
Project title : Improving occupational exposure assessment
Amount : \$236,200, 2004-2006.

- *University of Western Australia Research Grant* in 2003
Project title : Learning Australian sign language using real-time 3D graphics : Translating English to Auslan.
Amount : \$10,000.
- *University of Western Australia Research Grant* in 2001
Project title : Rapid design using reconfigurable processors : building blocks for evaluation of mathematical and trigonometric functions.
Amount : \$11,131.
- *Australian Research Council Small Grant* in 2000
Project title : Fast transformations for image processing on parallel computers with optical buses.
Amount : \$12,000.
- *Research launching Grant* from the Faculty of Engineering and Mathematical Sciences, University of Western Australia, in 1999
Project title : *A library of parallel algorithms on a network of workstations.*
Amount : \$19,500.

Editorial board membership

- Journal of Universal Computer Science, Springer
- Journal of Pervasive Computing and Communications, Troubador Publishing
- Open Applied Informatics Journal, Bentham Publishers
- Open Electrical & Electronic Engineering Journal, Bentham Publishers

Conference programme committee membership

- 2001 International Parallel and Distributed Processing Symposium (IPDPS), San Francisco.
- 2002 IEEE International Conference on High Performance Computing (HiPC'02), Bangalore.
- 2002 International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA '02), Las Vegas.
- 2002 IASTED International Conference on Parallel and Distributed Computing and Systems (PDCS '02), Cambridge, USA.
- 2003 International Conference on Computational Science (Organizing Committee member) ICCS '03, Melbourne, Australia and St. Petersburg, Russia.
- IASTED International Conference on Computer Science and Technology, CST 2003, Cancun, Mexico, May 2003.
- 2003 IASTED International Conference on Parallel and Distributed Computing and Systems (PDCS '03), Marina del Rey, California, November 2003.

- 2004 International Conference on Parallel Processing (ICPP '04), Montreal, Canada, August 2004.
- 2004 International Conference on Embedded and Ubiquitous Computing (EUC-04), Aizu, Japan, August 2004.
- IASTED International Conference on Advances in Computer Science and Technology (ACST 2004) St. Thomas, US Virgin Islands, November 2004.
- 16th IASTED International Conference on Parallel and Distributed Computing and Systems(PDCS 2004), MIT, Cambridge, USA, November 2004.
- 2005 International Parallel and Distributed Processing Symposium (IPDPS '05), Denver, Colorado, April 2005.
- First IEEE Workshop on High Performance Computing in Medicine and Biology, Fukuoka Institute of Technology, Japan, 2005.
- First International Workshop on Mobile, Ad-hoc and Ubiquitous Sensor Networks, Nanjing, China, November 2005.
- 17th IASTED International Conference on Parallel and Distributed Computing and Systems (PDCS 2005), Phoenix, Arizona, November 2005.
- 2006 IASTED International Conference on Advances in Computer Science and Technology (ACST 2006), Puerto Vallarta, Mexico, January 2006.
- The Fourth ACM International Workshop on Mobility Management and Wireless Access (MobiWac 2006), Malaga, Spain, October 2006.
- 21st IEEE International Conference on Advanced Information Networking and Applications (AINA 2007) , Niagara Falls, Canada, May 2007.
- International Conference on Computer Vision and Graphics 2006 (ICCVG 2006), Warsaw, September 2006.
- First ACM Workshop on Educational Multimedia and Multimedia Education (EMME 2007), September 2007, Augsburg, Germany.
- 22nd IEEE International Conference on Advanced Information Networking and Applications (AINA '08), Gino-Wan, Okinawa, Japan, March 2008.
- 2008 IEEE International Parallel and Distributed Processing Symposium (IPDPS '08), Miami, Florida, April 14-18, 2008.

Reviewing of Journals

- Algorithmica
- Computational Geometry : Theory and Applications
- Data and Knowledge Engineering

- EURASIP Journal on Wireless Communications and Networking
- IEEE Transactions on Computers
- IEEE Transactions on Parallel and Distributed Systems
- IEEE Transactions on Systems, Man and Cybernetics
- IEEE Transactions on Image Processing
- IEEE Transactions on Wireless Communications
- Information Processing Letters
- International Journal of Computational Geometry and Applications
- International Journal of Foundations of Computer Science
- International Journal of Systems Architecture
- Journal of Computer Science and Technology
- Journal of Graph Algorithms and Applications
- Journal of Parallel and Distributed Computing
- Journal of Supercomputing
- Optics Communications
- Parallel Computing
- Parallel Processing Letters
- Proceedings of IEEE
- Proceedings of the Royal Society of London. Series A, Mathematical and Physical Sciences
- The Visual Computer

Reviewing of grant proposals

- I am currently an INTREADER (expert of international standing) for reviewing Australian Research Council Discovery project proposals.
- I have reviewed both ARC Discovery and Linkage project proposals in the past.

Invited talks at conferences

- Workshop on Parallel Computing in Bioinformatics, *International Conference on Bioinformatics* , Auckland, New Zealand, September 2004.
Topic : Multiple sequence alignment in parallel on a cluster of workstations

- *7th Joint Conference on Information Sciences*, Cary, North Carolina, September 2003.

Topic : Permutation routing in wireless networks : Energy-efficiency and fault-tolerance

Invited seminars

I have presented invited seminars at the following academic institutions :

- Karlsruhe Institute of Technology, Germany,
- Australian National University,
- Institute for Mathematical Sciences, India,
- University of Freiburg, Germany,
- Indian Institute of Technology, Madras,
- Indian Institute of Technology, Kanpur,
- FernUniversität Hagen, Germany,
- Indian Institute of Technology, Bombay,
- Max Planck Institut für Informatik, Germany.

Membership of professional societies

- ACM
- IEEE Computer Society
- IEEE
- IEEE Communication Society
- IASTED Technical Committee on Parallel Processing
- RNA Society

Publications

Book Chapters

1. J. Sperschneider and A. Datta, "An Introduction to RNA Structure and Pseudoknot Prediction Algorithms in Computational Molecular Biology: Techniques, Approaches and Applications", M. Elloumi and A.Y. Zomaya (Eds) Wiley-Blackwell, 2010, to appear.
2. A. Datta and S. Soundaralakshmi, "A review of state-of-the-art routing protocols for mobile ad hoc networks", *Mobile Intelligence: When Computational Intelligence meets Mobile Paradigm*, L. T. Yang, A. Waluyo, L. Tan, J. Ma and B. Srinivasan (Eds.), John Wiley & Sons, in press, 2008.
3. K. Techapichetvanich and A. Datta, "Visual data mining for discovering association rules", *Business Applications and Computational Intelligence*, Kevin E. Voges and Nigel K. Pope (Eds.), Idea Group Publishing, pp. 209-226, 2006.
4. T. Cameron, R. Kozera and A. Datta, "A parallel leap-frog algorithm for 3-source photometric stereo", *Computer Vision & Graphics*, M.A.Viergever (Ed.), **Vol. 32**, pp. 95-102, Springer, Netherlands, 2006.
5. A. Datta and J. Ebedes, "Multiple sequence alignment in parallel on a cluster of workstations", *Parallel Computing in Bioinformatics and Computational Biology*, Wiley book series on Parallel and Distributed Computing, Albert Y. Zomaya (Ed.), pp. 193-210, 2006.
6. A. Datta and S. Soundaralakshmi, "Fast merging and sorting on a partitioned optical passive stars network", *Lecture Notes in Computer Science*, Springer-Verlag, **Vol. 2598**, pp. 115-127, 2003.
Special volume in honour of Prof. Thomas Ottmann on his 60th birthday.

Journal Articles

7. B. Pazand and A. Datta, "A three-tiered node scheduling scheme for sparse sensing in wireless sensor networks", *Computer Communications*, to appear.
8. B. Pazand and A. Datta, "An energy-efficient node scheduling scheme for wireless sensor networks based on minimum dominating sets", *ACM/Wiley International Journal of Network Management*, **Vol. 19**, pp.75-99, 2009.
9. V. Phua and A. Datta, "A link state dependent TDMA protocol for industrial wireless sensor network applications in periodically changing environments", *Journal of Interconnection Networks*, Special issue on performance evaluation of wireless networks, **9(3):231-254** (2008).
10. J. Sperschneider and A. Datta, "KnotSeeker: heuristic pseudoknot detection in long RNA sequences", *RNA*, **14(4)**, 630-640, 2008.

11. W. L. Lee, A. Datta and R. Cardell-Oliver, "FlexiTP: A flexible-schedule-based TDMA protocol for fault-tolerant and energy-efficient wireless sensor networks", *IEEE Transactions on Parallel and Distributed Systems*, **Vol. 19**, No. 4, pp. 851-864, 2008.
12. V. Phua and A. Datta, "A low-latency fault-tolerant protocol for mobile IP in wireless systems", *International Journal of Wireless and Optical Communications*, **Vol. 4**, No. 2, pp. 1-21, 2007.
13. T. Lauer, T. Ottmann and A. Datta, "Update-efficient data structures for dynamic IP router tables", *International Journal of Foundations of Computer Science*, **Vol. 18**, No. 1, pp. 139-161, 2007.
14. A. A. Pirzada, C. McDonald and A. Datta, "Dependable dynamic source routing without a trusted third party", *Journal of Research and Practice in Information Technology*, **Vol. 39**, No. 1, pp. 71-85, 2007.
15. A. A. Pirzada, C. McDonald and A. Datta, "Performance comparison of trust-based reactive routing protocols", *IEEE Transactions on Mobile Computing*, **Vol. 5**, No. 6, pp. 695-710, 2006.
16. A. A. Pirzada, A. Datta and C. McDonald, "Incorporating trust and reputation in the DSR protocol for dependable routing", *Computer Communications*, Special issue on Internet Communications Security, **Vol. 29**, pp. 2806-2821, 2006.
17. A. Datta, "A fault-tolerant protocol for energy-efficient permutation routing in wireless networks", *IEEE Transactions on Computers*, **Vol. 54**, No. 11, pp. 1409-1421, 2005.
18. N. Lowe and A. Datta, "A new technique for rendering complex portals", *IEEE Transactions on Visualization and Computer Graphics*, **Vol. 11**, No. 1, pp. 81-90, 2005.
19. M. Tran, A. Datta and N. Lowe, "A simple model generation system for computer graphics", *Future Generation Computer Systems*, Special issue on Interaction and Visualization Techniques for Problem Solving Environments, **Vol. 21**, No. 7, pp. 1223-1234, 2005.
20. A. Datta and S. Soundaralakshmi, "Fast and scalable algorithms for the Euclidean distance transform on a linear array with a reconfigurable pipelined bus system", *Journal of Parallel and Distributed Computing*, **Vol. 64**, No. 3, pp. 360-369, 2004.
21. J. Ebedes and A. Datta, "Multiple sequence alignment in parallel on a workstation cluster", *Bioinformatics*, **Vol. 20**, pp. 1193-1195, 2004.
22. A. Datta, "Multiple addition and prefix sum on a linear array with a reconfigurable pipelined bus system", *Journal of Supercomputing*, **Vol. 29**, pp. 303-317, 2004.
23. A. Datta and A. Y. Zomaya, "An energy-efficient permutation routing protocol for single-hop radio networks", *IEEE Transactions on Parallel and Distributed Systems*, **Vol. 15**, No. 4, pp. 331-338, 2004.
24. A. Datta and S. Soundaralakshmi, "On-line path planning in an unknown polygonal environment", *Information Sciences*, **Vol. 164**, No. 1-4, pp. 89-111, 2004.

25. G. P. Lorenzetto and A. Datta, "An almost linear-time algorithm for trapezoidation of GIS polygons", *Future Generation Computer Systems*, Special issue on Geocomputation, **Vol. 20**, pp. 1145-1155, 2004.
26. A. Datta, K. Krithivasan and T. Ottmann, "An optimal algorithm for one-separation of a set of isothetic polygons", *Information Sciences*, **Vol. 164**, No. 1-4. pp. 65-88, 2004.
27. A. Datta and S. Soundaralakshmi, "Summation and routing on a partitioned optical passive stars network with large group size", *IEEE Transactions on Parallel and Distributed Systems*, **Vol. 14**, No. 12, pp. 1275-1285, 2003.
28. A. Datta and S. Soundaralakshmi, "Fast parallel algorithm for distance transform", *IEEE Transactions on Systems, Man and Cybernetics, Part A: Systems and Humans*, **Vol. 33**, No. 5, pp. 429-434, 2003.
29. A. Datta, "Efficient parallel clustering algorithms", *Informatica*, **Vol. 26**, pp. 65-75, 2002.
30. A. Datta, "Efficient graph-theoretic algorithms on a linear array with a reconfigurable pipelined bus system", *Journal of Supercomputing*, **Vol. 23**, pp. 193-211, 2002.
31. A. Datta, S. Soundaralakshmi and R. Owens, "Fast sorting algorithms on a linear array with a reconfigurable pipelined bus system", *IEEE Transactions on Parallel and Distributed Systems*, **Vol. 13**, No. 3, pp. 212-222, 2002.
32. G. P. Lorenzetto, A. Datta and R. C. Thomas, "A fast trapezoidation algorithm for planar polygons", *Computers & Graphics*, **Vol. 26**, pp. 281-289, 2002.
33. A. Datta and T. Ottmann, "Towards a virtual university", *Journal of Universal Computer Science*, **Vol. 7**, No. 10, pp. 870-885, 2001.
34. A. Datta and S. Soundaralakshmi, "Constant-time algorithm for the Euclidean distance transform on reconfigurable meshes", *Journal of Parallel and Distributed Computing*, **Vol. 61**, pp. 1439-1455, 2001.
35. A. Datta, "Efficient parallel range searching and partitioning algorithms", *Parallel Algorithms and Applications*, **Vol. 16**, pp. 301-316, 2001.
36. A. Datta and S. Soundaralakshmi, "An efficient algorithm for computing the maximum empty rectangle in three dimensions", *Information Sciences*, **Vol. 128**, 1-2, pp. 43-65, 2000.
37. A. Datta and Ch. Icking, "Competitive searching in a generalized street", *Computational Geometry : Theory & Applications*, **Vol. 13**, 2 (1999), pp. 109-120.
38. A. Datta, A. Maheshwari and J.-R. Sack, "Optimal parallel algorithms for direct dominance problems", *Nordic Journal of Computing*, **Vol. 3**, pp. 71-87, 1996.
39. A. Datta, H. Lenhof, C. Schwarz and M. Smid, "Static and dynamic algorithms for k-point clustering problems", *Journal of Algorithms*, **Vol. 19**, pp. 474-503, 1995.
40. A. Datta, "Efficient Algorithms for the largest rectangle problem", *Information Sciences*, **Vol. 64**, pp. 121-141, 1992.

41. A. Datta, R. Srikant, G. Ramkumar and K. Krithivasan, "Efficient parallel algorithms for the maximum empty rectangle problem", *Journal of the Indian Academy of Sciences*, Special issue on Parallel and Distributed Computing, **Vol. 17**, pp. 221-236, 1992.
42. A. Datta, R. Srikant and K. Krithivasan, "Fast sequential and parallel algorithms for finding the largest rectangle separating two sets", *International Journal of Computer Mathematics*, **Vol. 37**, pp. 49-61, 1990.

Refereed International Conference Papers in Lecture Notes in Computer Science

43. M. Tran and A. Datta, "Variable neighbourhood texture synthesis with patch initialisation", Proc. Technical Session on Computer Graphics, ICCSA 2007, Kuala Lumpur, *Lecture Notes in Computer Science*, Springer-Verlag, **Vol. 4706**, pp. 627-638, 2007.
44. M. Tran and A. Datta, "Jigsaw texture synthesis", *Proc. 7th International Symposium on Smart Graphics*, Kyoto, *Lecture Notes in Computer Science*, Springer-Verlag, **Vol. 4569**, pp. 210-215, 2007.
45. B. Pazand and A. Datta, "Minimum dominating sets for solving the coverage problem in wireless sensor networks", *Proc. 2006 International Symposium on Ubiquitous Computing Systems*, (UCS '06), Seoul, *Lecture Notes in Computer Science*, Springer-Verlag, **Vol. 4239**, pp. 454-466, 2006.
46. A. Filipovic, A. Datta and C. McDonald, "Low-latency routing in ad hoc wireless networks using finite horizons", *First International Workshop on Wireless Ad-hoc and Ubiquitous Sensor Networks*, Nanjing, China, *Lecture Notes in Computer Science*, Springer-Verlag, **Vol. 3759**, pp. 422-433, 2005.
47. K. Techapichetvanich and A. Datta, "VisAR : A new technique for visualizing mined association rules", Proc. First International Conference on Advanced Data Mining and Applications (ADMA 2005), Wuhan, China, *Lecture Notes in Computer Science*, Springer-Verlag, **Vol. 3584**, pp. 88-95, 2005.
48. K. Techapichetvanich and A. Datta, "Interactive visualization for OLAP", Proc. International Conference on Computational Science and its Applications (ICCSA 2005), Singapore, *Lecture Notes in Computer Science*, Springer-Verlag, **Vol. 3482**, pp. 206-214, 2005.
49. R. Goff and A. Datta, "WiCTP : A token-based access control protocol for wireless networks", Proc. International Conference on Computational Science and its Applications (ICCSA 2005), Singapore, *Lecture Notes in Computer Science*, Springer-Verlag, **Vol. 3480**, pp. 87-96, 2005.
50. S. Zhang and A. Datta, "A directional-antenna based MAC protocol for wireless sensor networks", Proc. International Conference on Computational Science and its Applications (ICCSA 2005), Singapore, *Lecture Notes in Computer Science*, Springer-Verlag, **Vol. 3481**, pp. 686-695, 2005.
51. K. Techapichetvanich and A. Datta, "Visual mining of market basket association rules", *Proc. International Conference on Computational Science and its Applications*, Perugia, Italy, *Lecture Notes in Computer Science*, Springer-Verlag, **Vol. 3046**, pp. 479-488, 2004.

52. A. Filipovic and A. Datta, "Building blocks of energy and cost efficient wireless sensor networks", *Proc. 1st European Workshop on Wireless Sensor Networks*, Berlin, *Lecture Notes in Computer Science*, Springer-Verlag, **Vol. 2920**, pp. 218-233, 2004.
53. N. Lowe and A. Datta, "A fragment culling technique for rendering arbitrary portals", *Proc. International Conference on Computational Science*, St. Petersburg, *Lecture Notes in Computer Science*, Springer-Verlag, **Vol. 2657**, pp. 915-924, 2003.
54. M. Tran, A. Datta and N. Lowe, "A low-cost model acquisition system for computer graphics applications", *Proc. International Conference on Computational Science*, Melbourne, *Lecture Notes in Computer Science*, Springer-Verlag, **Vol. 2659**, pp. 1054-1063, 2003.
55. K. A. Mohamed, A. Datta and R. Kozera, "A knowledge-based technique for constraints satisfaction in manpower allocation", *Proc. International Conference on Computational Science*, Melbourne, *Lecture Notes in Computer Science*, Springer-Verlag, **Vol. 2659**, pp. 100-108, 2003.
56. A. Datta and S. Soundaralakshmi, "Energy-efficient communication protocols for wireless networks", *Proc. International Conference on Information Networking (ICOIN 2003)*, Jeju, Korea, *Lecture Notes in Computer Science*, Springer-Verlag, **Vol. 2662**, pp. 181-191, 2003.
57. K. A. Mohamed, A. Datta and R. Kozera, "Knowledge-based techniques for constraints satisfaction in resource allocation problems", *Proc. 15th Australian Joint Conference on Artificial Intelligence (AI 2002)*, Canberra, *Lecture Notes in Artificial Intelligence*, Springer-Verlag, **Vol. 2557**, pp.725, 2002.
58. A. Datta and A. Y. Zomaya, "New energy-efficient permutation routing protocol for single-hop radio networks", *Proc. 8th International Computing and Combinatorics Conference(COCOON '02)*, Singapore, *Lecture Notes in Computer Science*, Springer-Verlag, **Vol. 2387**, pp. 249-258, 2002.
59. G. P. Lorenzetto and A. Datta, "A linear-time heuristics for trapezoidation of GIS polygons", *Proc. 2002 International Conference on Computational Science*, Amsterdam, *Lecture Notes in Computer Science*, Springer-Verlag, **Vol. 2331**, pp. 75-84, 2002.
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