



CV

Dr. Masud Hasan



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| Bangladesh University of Engineering & Technology (BUET) | Email : masudhasan@cse.buet.ac.bd |
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SUMMARY OF QUALIFICATIONS

- TWAS (Italy) Young Scientist Award for Bangladeshi Scientists for 2011
- 12 years experience in theoretical and applied research, with more than 60 articles as book chapter, journals, conferences and other articles.
- 6 years experience in supervising graduate and undergraduate research, with 5 Masters students and 19 Undergraduate theses supervision.
- 9 years experience in university teaching in both graduate and undergraduate levels.
- Fluent in English speaking.
- 6 years experience in consultancy, development and testing in government and private projects.
- Proficiency in C, Pascal, Database Languages, SQL, Visual Basics, MIPS Assembly Language.

RESEARCH INTEREST

- Computational Geometry
- Algorithms
- Approximation Algorithms
- Bioinformatics Algorithms
- Quantum Computing

TEACHING INTEREST

Undergraduate Level Courses

- Design and Analysis of Algorithms
- Advanced Algorithms
- Discrete Mathematics and Discrete Structures
- Theory of Computation
- Data Structures
- Mathematical Analysis for Computer Science
- Graph Theory
- Numerical Methods
- Computational Geometry
- Algorithms in Bioinformatics
- Digital Logic Design
- Computer Architecture
- Microprocessors

Graduate Level Courses

- Advanced Algorithms
- Theory of Computation
- Computational Geometry
- Algorithms in Bioinformatics
- Applied Combinatorics and Graph Theory
- Quantum Computing
- Parallel Algorithms

EDUCATION AND POSTDOCTORAL FELLOWSHIP

- **Postdoctoral Fellowship**

Institute : University of Wisconsin-Milwaukee, USA
Period : September 2010 – December 2010
Host : Dr. Adrian Dumitrescu

- **Postdoctoral Fellowship**

Institute : University of Waterloo, Canada
Period : January 2010 – July 2010
Host : Dr. Alejandro Lopez-Ortiz

- **PhD**

Institute : University of Waterloo, Canada
Department : Computer Science
Faculty : Faculty of Mathematics
Period of Study : September 2001– October 2005
Major Field of Study : Algorithms and Computational Geometry
Courses Taken, Marks : Algorithms for Polyhedra (95%), Algorithmic Graph Theory (94%), Advanced Algorithms (84%), Computational Complexity (77%), Computational Geometry (Audit)
Supervisor : Dr. Therese Biedl and Dr. Alejandro López-Ortiz
Dissertation : Reconstruction and Visualization of Polyhedra Using Projections
Defense Committee : Dr. Therese Biedl (University of Waterloo), Dr. David Clausi (University of Waterloo), Dr. Jeff Erickson (University of Illinois at Urbana-Champaign), Dr. Craig S. Kaplan (University of Waterloo), Dr. Alejandro López-Ortiz (University of Waterloo), and Dr. Anna Lubiw (University of Waterloo)

- **MSc Engineering**

Institute : Bangladesh University of Engineering and Technology (BUET)
Department : Computer Science and Engineering
Faculty : Faculty of Electrical and Electronics Engineering
CGPA : 3.50 (scale 4.00) (average marks: 80% or above)
Graduation Year : May 2001
Major Field of Study : Algorithms, Parallel Algorithms
Supervisor : Dr. Md. Abul Kashem Mia
Dissertation : Efficient Parallel Algorithms for Series-Parallel Graphs

- **BSc Engineering**

Institute : Bangladesh University of Engineering and Technology (BUET)
Department : Computer Science and Engineering
Faculty : Faculty of Electrical and Electronics Engineering
CGPA : 3.92 (scale 4.00)
Position in the Batch : 3rd
Graduation Year : September 1998
Supervisor : Dr. Muhammad Masroor Ali
Dissertation : Dynamic Programming Based 2-Dimensional Warping Algorithm for Bangla Character Recognition

SCHOLARSHIPS/AWARDS/FELLOWSHIP

| Award Name | Value | Type | Location of Tenure | Period | Comment |
|--------------------------------------|---------------------------------------|-----------------------------------|---|--------------------------------|----------------------|
| TWAS-BAS Young Scientist Award | US \$500 | Research | Bangladesh University of Engineering & Technology | 2011 | Given by TWAS, Italy |
| Postdoctoral Research Fellowship | US \$15,000 | Research | University of Wisconsin-Milwaukee | September 2010 - December 2010 | |
| Postdoctoral Research Fellowship | CND \$25,000 | Research | University of Waterloo, Canada | January 2010- June 2010 | |
| Postdoctoral Research Fellowship | US \$38,000 per year for three years | Research | University of West Virginia, USA | February 2010 – February 2013 | Declined |
| International Graduate Student Award | CND \$10,000 per year for four years | Research | University of Waterloo, Canada | September 2001 – August 2005 | |
| Teaching and Research Assistantship | CND \$20,000 per year for four years | Research + Teaching Assistantship | University of Waterloo, Canada | September 2001 – August 2005 | |
| PhD Fellowship | CND \$25,000 per year for three years | Academic | University of Victoria, Canada | 2001-2004 | Declined |
| PhD Scholarship | CND \$20,000 per year for three years | Academic | University of Alberta | 2001-2004 | Declined |
| PhD Scholarship | CND \$20,000 per year for three years | Academic | University of Western Ontario | 2001-2003 | Declined |
| Worner Von Siemens Award | BDT 3,000 | For Undergrad Academic Excellence | Bangladesh University of Engineering & Technology | 2005 | |
| Dean's List | BDT 5,000 per year for four years | For Undergrad Academic Excellence | Bangladesh University of Engineering & Technology | 1993-1996 | |

OTHER EDUCATIONAL ACHIEVEMENT

- Stood 2nd in BUET Entrance Exam 1992. BUET Entrance Exam is the most competitive university entrance exam in Bangladesh.
- Stood 11th in Dhaka University Entrance Exam 1992. Dhaka University Entrance Exam is the largest university entrance exam in Bangladesh.

POSITION HELD/WORK EXPERIENCE

- **Professor**
Institute : Bangladesh University of Engineering and Technology (BUET)
Period : April 2012 - Current
Responsibilities:
 - Graduate and undergraduate course teaching, exam question setting, marking.
 - Graduate and undergraduate thesis supervision.
 - Working in the admission test and selection process of graduate students.

- **Associate Professor**
Institute : Bangladesh University of Engineering and Technology (BUET)
Period : July 2010 – April 2012
Responsibilities:
 - Graduate and undergraduate course teaching, exam question setting, marking.
 - Graduate and undergraduate thesis supervision.
 - Working in the admission test and selection process of graduate students.

- **Assistant Professor**
Institute : Bangladesh University of Engineering and Technology (BUET)
Period : August 2001 – July 2010 (On leave from Sept 2001 – Nov 2005 for PhD)
Responsibilities:
 - Graduate and undergraduate course teaching, exam question setting, marking.
 - Graduate and undergraduate thesis supervision.
 - Working in the admission test and selection process of graduate students.

- **Research Assistant**
Institute : University of Waterloo, Canada
Period : September 2001 – November 2005
Responsibilities:
 - Devise efficient algorithms for efficient visualization of 3D objects.
 - Devise efficient algorithms for reconstructing 3D convex polyhedral and 2D convex polygons from their projections.
 - Give characterization and efficient recognition algorithms for equiprojective polyhedra

- **Teaching Assistant**
Institute : University of Waterloo, Canada
Period : September 2001 – September 2005
Responsibilities: Marking undergrad students assignments and exams

- **Lecturer**
Institute : Bangladesh University of Engineering and Technology (BUET)
Period : December 1998 – August 2001
Responsibilities: Undergraduate course teaching, exam question setting, marking.

- **Member, Bureau of Research, Testing, and Consultancy**
Institute : Bangladesh University of Engineering and Technology (BUET)
Period : December 1998 – August 2001, December 2005 – Current
Activities :
 - Member in the Testing Group for Networking Bangladesh Secretariat, ICT Task Force, Ministry of Planning, Bangladesh (2006-2007).

- Member in the Operation Group for Distribution of share market lotteries, Security and Exchange Commission, Bangladesh.
- Member in Group for Software Functionality Testing of Store Inventory Management System of Bangladesh Petroleum Institute.
- Member in Group for Software Functionality Testing of Tax Software of Keya Cosmetics, Bangladesh.
- Member in Group for IT Personnel Selection for Office of Auditor General and Comptroller, Ministry of Finance, Bangladesh.

LIST OF PUBLICATIONS

International Peer Reviewed Journals

1. **The 1.375 Approximation Algorithm for Sorting by Transpositions Can Run in $O(n \log n)$ Time**
Jesun Sahariar Firoz, Masud Hasan, Ashik Zinnat Khan, and M. Sohel Rahman
Journal of Computational Biology 18(8), pp. 1007-1011, August 2011, **Mary Ann Liebert, Inc. publishers, USA** [[Online link](#)]
2. **Solving Minimum Hitting Set Problem and Generalized Exact Cover Problem with Light Based Devices**
Masud Hasan, Shabab Hossain, Md. Mahmudur Rahman, and M. Sohel Rahman
International Journal of Unconventional Computing 7(1-2), pp. 125-140, 2011, **Old city publishing, USA** [[Online link](#)]
3. **Efficient viewpoint selection for silhouettes of convex polyhedra**
Therese C. Biedl, Masud Hasan, and Alejandro Lopez-Ortiz
Computational Geometry: Theory and Application 44(8), pp. 399-408, 2011, **Elsevier** [[Online link](#)]
4. **Reconstructing convex polygons and polyhedra from edge and face counts in orthogonal projections**
Therese C. Biedl, Masud Hasan and Alejandro López-Ortiz
International Journal of Computational Geometry and Applications 22(2), pp. 215-239, 2011, **World Scientific** [[Online link](#)]
5. **Computing nice projections of convex polyhedra**
Md. Ashrafal Alam and Masud Hasan
International Journal of Computational Geometry and Applications 21(1), pp. 71-85, 2011, **World Scientific**, [[Online link](#)]
6. **An Optical Solution for the Subset Sum Problem**
Masud Hasan, Shabab Hossain, Md. Mahmudur Rahman, and M. Sohel Rahman
Natural Computing 10(1), pp. 541-550, 2011, **Springer** [[Online link](#)]
7. **Cutting a Convex Polyhedron out of a Sphere**
Syed Ishtiaque Ahmed, Masud Hasan, and Md. Ariful Islam
Graphs and Combinatorics 27(3), pp. 307-319, 2011, **Springer** [[Online link](#)]
8. **Cache Oblivious Algorithms for RMQ and RMSQ Problems**
Masud Hasan, Tanaeem M. Moosa, and M. Sohel Rahman
Mathematics in Computer Science 3(4), pp. 433-442, 2010, **Springer** [[Online link](#)]

9. **Cutting a cornered convex polygon out of a circle**
Syed Ishtiaque Ahmed, Md. Ariful Islam, and Masud Hasan
Journal of Computers 5(1), pp. 4-11, 2010, **Academy Publisher** [[Online link](#)]
10. **Cutting a Convex Polygon Out of a Circle**
Syed Ishtiaque Ahmed, Masud Hasan and Md. Ariful Islam
International Journal of Recent Trends in Engineering 2 (1), pp. 88-92, 2009, **Academy Publisher** [[Online link](#)]
11. **An approximation algorithm for sorting by reversals and transpositions**
Atif Rahman, Swakkhar Shatabda, and Masud Hasan
Journal of Discrete Algorithms 6(3), pp. 449-457, September 2008, **Elsevier** [[Online link](#)]
12. **Equiprojective polyhedra**
Masud Hasan and Anna Lubiw
Computational Geometry: Theory and Applications 40(2), pp. 148-155, 2008, **Elsevier** [[Online link](#)]
13. **A linear algorithm for compact box-drawing of trees**
Masud Hasan, Md. Saidur Rahman, and Takao Nishizeki
Networks 42(3), pp. 160-164, 2003, **Wiley** [[Online link](#)]

International Peer Reviewed Journals (Submitted)

14. **On Fixed Size Projection of Convex Polyhedra**
Masud Hasan
Submitted to *Information Processing Letters*, **Elsevier**, 2012
9 pages
15. **Formulation and Development of a Novel Quaternary Algebra**
Ifat Jahangir, Anindya Das and Masud Hasan,
Submitted to *Journal of Multiple-Valued Logic and Soft Computing*, **Old City Publishing Inc, Philadelphia-London-Paris**, 2012
26 pages
16. **Efficient List Heuristic Scheduling Algorithms for Distributed Memory Systems**
Maruf Ahmed, Sharif M. H. Chowdhury, and Masud Hasan
Submitted to *International Journal of High Speed Computing*, **World Scientific**, 2012
26 pages
17. **Some New Equiprojective Polyhedra**
Masud Hasan, Mohammad Monoar Hossain, Alejandro Lopez-Ortiz, Sabrina Nusrat, Saad Altaful Quader, and Nabila Rahman
Submitted to *Journal of Advances in Geometry*, 2010, Walter de Gruyter GmbH & Co. KG, **Germany**, 10 pages
18. **Cutting Out Polygons with a Circular Saw**
Adrian Dumitrescu, Masud Hasan
Submitted to *International Journal of Computational Geometry and Applications*, **World Scientific**, 2012
10 pages

19. **Prefix transpositions on binary and ternary strings**
Amit Kumar Dutta, Masud Hasan and M. Sohel Rahman
Submitted to *Information Processing Letters*, **Elsevier**, 2012
6 pages

Book chapters

20. **Advances in genome rearrangement algorithms**
Masud Hasan and M. Sohel Rahman
In *Algorithms in Computational Molecular Biology: Techniques, Approaches and Applications*, Editors: Mourad Elloumi and Albert Y. Zomaya, pp. 749-772, **Wiley**, 2011 [[Online link](#)]

International Peer Reviewed Conference Proceedings

21. **Design of Novel Quaternary Encoders and Decoders**
Ifat Jahangir, Anindya Das and Masud Hasan
In Proc. **IEEE/IAPR** International Conference on Informatics, Electronics and Vision 2012, May 18-21, 2012, Dhaka, Paper ID: 506
6 pages
22. **Cutting Out Polygons with a Circular Saw**
Adrian Dumitrescu, Masud Hasan
In Proc. 22nd International Symposium on Algorithms and Computation (ISAAC 2011), **LNCS** Vol. 7074, pp. 230-239, Yokohama, **Japan**, December 5-8, 2011, **Springer** [[Online link](#)]
23. **Some Basic Ternary Operations Using Toffoli Gates along with the Cost of Implementation.**
Ayan Biswas, Shuvro Chowdhury, Md. Mahmud Muntakim Khan, Masud Hasan, Asif Islam Khan
In Proc. 41st **IEEE** International Symposium on Multi-Valued Logic 2011 (ISMVL 2011), May 23-25, 2011, Tusula, **Finland** [[Online link](#)]
24. **On the design and analysis of quaternary serial and parallel adders**
Anindya Das, Ifat Jahangir, Masud Hasan, Shahera Hossain
In Proc. **IEEE** TENCON 2010, pp. 1691-1695, Fukuoka, **Japan**, Nov 22-24, 2010 [[Online link](#)]
25. **Kinetisation of view of 3D point set**
M. A. Wahid, M. Kaykobad, and Masud Hasan
In Proc. 13th International Conference on Computer and Information Technology (ICCIT), 2010, pp. 325-330, Dhaka, Bangladesh [[Online link](#)]
26. **Two dimensional Range Minimum/Maximum Query revisited**
Maxime Crochemore, Maxime, Masud Hasan, Tanaeem M. Moosa, and M. Sohel Rahman
In Proc. 13th International Conference on Computer and Information Technology (ICCIT), 2010, pp. 27-32, Dhaka, Bangladesh [[Online link](#)]
27. **Solving the minimum hitting set problem with a light-based device**
Masud Hasan, Shabab Hossain, Md. Mahmudur Rahman, and M. Sohel Rahman
In Proc. 13th International Conference on Electrical and Computer (ICECE), 2010, pp. 423-426, Dhaka, Bangladesh [[Online link](#)]

28. **(Non-)Equiprojectivity and (Non-)Biprojectivity of Simplicial Polyhedra**
 Masud Hasan
 In Online Proc. 20th Annual Fall Workshop on Computational Geometry (FWCG 2010), Stony Brook, NY, USA, 29-30 October, 2010 [[Online link](#)]

29. **Vindictive Voronoi games and stabbing Delaunay circles**
 Syed Ishtiaque Ahmed, Masud Hasan, and Awalyn Sopan
 In Proc. 7th International Symposium on Voronoi Diagram in Science and Engineering (ISVD 2010), Quebec City, Canada, June 28-30, 2010, pp. 124-131, **IEEE CS** [[Online link](#)]

30. **Pancake flipping with two spatulas**
 Masud Hasan, Atif Rahman, M. Sohel Rahman, Mahfuza Sharmin and Rukhsana Yeasmin
 In Proc. International Symposium on Combinatorial Optimization (ISCO 2010), March 24-16, 2010, Tunisia, Proceedings by Electronics Notes on Discrete mathematics, Vol 36, pp. 231-238, 2010, **Elsevier** [[Online link](#)]
 Also previously accepted as a book chapter for *Advances in Computational Biology*, Springer, (acceptance rate 18%), not published due to registration failure, 2010

31. **Cutting a Convex Polyhedron out of a Sphere**
 Syed Ishtiaque Ahmed, Masud Hasan, and Md. Ariful Islam
 In Proc. 4th Annual Workshop on Algorithms and Computation (WALCOM 2010), LNCS Vol 5942, Dhaka, Bangladesh, February 10-12, 2010, pp. 94-101, **Springer** [[Online link](#)]
 and
 In Proc. 7th Japan Conference on Computational Geometry and Graphs (JCCGG'09), Kanazawa, Japan, November 11-13, 2009 [[Online link](#)]

32. **An Optical Solution for the Subset Sum Problem**
 Masud Hasan, Shabab Hossain, Md. Mahmudur Rahman, and M. Sohel Rahman
 In Proc. 4th International Workshop on Natural Computing (IWNC), Himeji, Japan, September 23-25, 2009, In Proceedings of Information and Communications Technology, Volume 2, Part 3, pp. 165-173, **LNCS, Springer Japan**, 2010 [[Online link](#)]

33. **The 1.375 Approximation Algorithm for Sorting by Transpositions Can Run in $O(n \log n)$ Time**
 Jesun Sahariar Firoz, Masud Hasan, Ashik Zinnat Khan, and M. Sohel Rahman
 In Proc. 4th Annual Workshop on Algorithms and Computation (WALCOM 2010), LNCS Vol 5942, Dhaka, Bangladesh, February 10-12, 2010, pp. 161-166, **Springer** [[Online link](#)]

34. **On Finding a Better Position of a Convex Polygon inside a Circle to Minimize the Cutting Cost**
 Syed Ishtiaque Ahmed, Md. Mansurul Alam Bhuiyan, Masud Hasan, and Ishita Kamal Khan
 In Proc. 4th Annual Workshop on Algorithms and Computation (WALCOM 2010), LNCS Vol 5942, Dhaka, Bangladesh, February 10-12, 2010, pp. 252-262, **Springer** [[Online link](#)]

35. **On the Longest Vulnerable Path inside a Sensor Network from Boundary Regions**
 Chowdhury Sayeed Hyder, Ashikur Rahman and Masud Hasan
 In Proc. 5th **IEEE GCC** Conference & Exhibition, Mar. 17-19, 2009, Kuwait City, Kuwait [[Online link](#)]

36. **Maximum neighbor Voronoi games**
 Md. Muhibur Rasheed, Masud Hasan and M. Sohel Rahman
 In Proc. 3rd Annual Workshop on Algorithms and Computation (WALCOM 2009), LNCS Vol. 5431, Kolkata, India, Feb 12-14, 2008, pp. 93-104, 2009, **Springer** [[Online link](#)]

37. **Integer Linear Programming in Designing Universal Arrays with Multiplexed Applications**
Atif Rahman, Mahmuda Naznin, and Masud Hasan
In Proc. International Conference on Electronics and Computer Technology, Macau, China, February 20-22, 2009, pp. 215-218, **IEEE CS** [[Online link](#)]
38. **Synthesis of GF(3) based ternary reversible/quantum logic circuits without ancillary qutrits**
Md. Mahmud Muntakim Khan, Ayan Kumar Biswas, Shuvro Chowdhury, Masud Hasan and Asif Khan
In Proc. 39th **IEEE** International Symposium on Multi-Valued Logic 2009 (ISMVL 2009), May 21-23, 2009, Okinawa, **Japan**, pp. 98-102 [[Online link](#)]
39. **IMIPS: An improved pipelined processor architecture with reduced branch penalty and single memory for instruction and data**
Md. Raqibul hasan, M. Sohel Rahman, Masud Hasan and Md. Mahmudul Hasan
In Proc. 2nd International International Conference on Computer Engineering and Applications (ICCEA), Bali Island, **Indonesia**, March 19-21, 2010, pp. 621-625, **IEEE CS** [[Online link](#)]
40. **Cutting a cornered convex polygon out of a circle**
Syed Ishtiaque Ahmed, Md. Ariful Islam and Masud Hasan
In Proc. 11th International Conference on Computer and Information Technology (ICCIT 2008), Khulna, Bangladesh, December 25-27, 2008, pp. 1-6, **IEEE CS** [[Online link](#)]
41. **Smallest and some new equiprojective polyhedra**
Masud Hasan, Mohammad Monoar Hossain, Sabrina Nusrat and Alejandro Lopez-Ortiz
11th International Conference on Computer and Information Technology (ICCIT 2008), Khulna, Bangladesh, December 25-27, 2008, pp. 459-464, **IEEE CS** [[Online link](#)]
42. **Fast preemptive task scheduling algorithm for homogeneous and heterogeneous distributed memory systems**
Maruf Ahmed, Sharif M. H. Chowdhury and Masud Hasan
In Proc. 9th ACIS International Conference on Software Engineering, Artificial Intelligence, Networking, and Parallel/Distributed Computing (SNPD 2008), Phuket, Thailand, August 6-8, 2008, pp. 720-725, **IEEE CS** [[Online link](#)]
43. **An approximation algorithm for bounded degree closest phylogenetic second root problem**
Swakkhar Shatabda, Atif Rahman and Masud Hasan
In Proc. International MultiConference of Engineers and Computer Scientists 2008 Vol I, IMECS 2008, March 19-21, 2008, **Hong Kong** [[Online link](#)]
44. **List heuristic scheduling algorithms for distributed memory systems with improved time complexity**
Maruf Ahmed, Sharif M. H. Chowdhury and Masud Hasan
In Proc. 9th International Conference on Distributed Computing and Networking (ICDCN 2008), **Springer LNCS** Vol. 4904, Jan 5-8, 2008, Kolkatta, **India**, pp. 257-262 [[Online link](#)]
45. **Computing nice projections of convex polyhedra**
Md. Ashraful Alam and Masud Hasan
In Proc. 2nd Annual Workshop on Algorithms and Computation (WALCOM 2008), **Springer LNCS** Vol. 4921, Dhaka, February 7-8, 2008, pp. 111-119 [[Online link](#)]
46. **Quantum realization of some quaternary circuits**
Mahmud Khan, Ayan Biswas, Shuvro Chowdhury, Kazi Mohsin, Mehbuba Tanzid, Masud Hasan and Asif I. Khan

- In Proc. **IEEE TENCON** 2008, Hyderabad, India, November 18-21, 2008, pp. 1-5 [[Online link](#)]
47. **Reconstructing convex polygons and polyhedra from edge and face counts in orthogonal projections**
Therese C. Biedl, Masud Hasan and Alejandro López-Ortiz
In Proc. 27th International Conference on Foundation of Software Technology and Theoretical Computer Science (FSTTCS 2007), **Springer LNCS** Vol. 4855, New Delhi, India, December 12-14, 2007, pp. 400-411 [[Online link](#)]
 48. **An approximation algorithm for sorting by reversals and transpositions**
Atif Rahman, Swakkhar Shatabda and Masud Hasan
In Proc. 1st Annual Workshop on Algorithms and Computation (WALCOM 2007), Dhaka, February 12, 2007, pp. 97-108 [[Online link](#)]
 49. **Quantum realization of some ternary circuits using Muthukrishnan-Stroud gates**
Asif I. Khan, Nadia Nusrat, Samira M. Khan, Masud Hasan and Mozammel H. A. Khan
In Proc. 37th **IEEE** International Symposium on Multiple-Valued Logic (ISMVL 2007), Oslo, **Norway**, May 13-15, 2007, pp. 20-25 [[Online link](#)]
 50. **Some new equiprojective polyhedra**
Nabila Rahman, Saad Altaful Quader and Masud Hasan
In Proc. 9th International Conference on Computer and Information Technology (ICCIT 2006), Dhaka, 21-23rd December 2006, pp. 34-38 [[Online link](#)]
 51. **Novel realization of some ternary circuits for quantum computing**
Asif Khan, Nadia Nusrat, Samira Manabi Khan and Masud Hasan
In Proc. **IEEE TENCON**, November 14-17, 2006, **Hong Kong** [[Online link](#)]
 52. **Novel realization of quantum ternary mux and demux**
Asif Khan, Nadia Nusrat, Samira Manabi Khan and Masud Hasan
In Proc. International Conference on Electrical and Compute Engineering (ICECE 2006), December 21-23, 2006, Dhaka, pp. 153-156 [[Online link](#)]
 53. **e-Government Procurement of Developing Countries**
Abu Sayed Md. Latiful Haque, Muhammad Tanvir Parvez, Masud Hasan, Gahangir Hossain, and Muhammad Aminur Rahman Shah
In Proc. International Conference on Information and Communication Technology, November 21-23, 2006, Kuala Lumpur, **Malaysia**
 54. **e-Government Procurement of Bangladesh**
Abu Sayed Md. Latiful Haque, Muhammad Tanvir Parvez, Masud Hasan, Gahangir Hossain, and Muhammad Aminur Rahman Shah
In Proc. National Seminar, Golden Jubilee Convention of Institute of Engineers, Dhaka, Bangladesh, February 27-28, 2006, pp. 75-80
 55. **Efficient viewpoint selection for silhouettes of convex polyhedra**
Therese C. Biedl, Masud Hasan and Alejandro Lopez-Ortiz
In Proc. 29th International Conference on Mathematical Foundation of Computer Science (MFCS 2004), **Springer LNCS** Vol. 3153, **Czech Republic**, August 22-27, 2004, pp. 735-747 [[Online link](#)]
 56. **Equiprojective polyhedra**
Masud Hasan and Anna Lubiw
In Proc. 15th Canadian Conference on Computational Geometry (CCCG 2003), Halifax, **Canada**,

August 11-13, 2003, pp. 47-50 [[Online link](#)]

57. **Searching for the center of a circle**

Therese C. Biedl, Masud Hasan, Joe Horton, Alejandro Lopez-Ortiz and Tomas Vinar
In Proc. 14th Canadian Conference on Computational Geometry (CCCG 2002), Lethbridge, **Canada**,
August 11-13, 2002, pp. 137-14 [[Online link \(.ps\)](#)]

58. **A linear algorithm for compact box-drawing of trees**

Masud Hasan, Md. Saidur Rahman and Takao Nishizeki
In Proc. 14th Canadian Conference on Computational Geometry (CCCG 2002), Lethbridge, Alberta,
August 12-14, 2002, pp. 154-157 [[Online link \(.ps\)](#)]

59. **A linear algorithm for finding visibility graphs of trees**

Masud Hasan, and Md. Saidur Rahman
In Proc. 2nd International Conference on Computer and Information Technology (ICCIT 1999),
December 3-5, 1999, Bangladesh, pp. 204-207

60. **An efficient line drawing algorithm**

Masud Hasan and Md. Abul Kashem
In Proc. 2nd International Conference on Computer and Information Technology (ICCIT 1999), pp. 204-
207, 3-5 December, 1999, Bangladesh

61. **Dynamic programming based 2-dimensional warping algorithm for Bangla character recognition**

Md. Meftauddin, Masud Hasan and Muhammad Masroor Ali
In Proc. International Conference on Computer and Information Technology (ICCIT 1998), 18-20
December, 1998, Dhaka, Bangladesh, pp.153-156

62. **Dynamic programming based 2-dimensional warping algorithm for hand-written Bangla character recognition**

Masud Hasan, Md. Meftauddin and Muhammad Masroor Ali
In Proc. National Conference on Computer and Information Technology (NCCIS 1997), 1997, Dhaka,
Bangladesh

Book Published by VDM Verlag, Germany [Not a reputed publisher]

63. **Selected Topics of Computational Geometry: Polygons, Circles and Spheres**

Syed Ishtiaque Ahmed, Md. Ariful Islam, Masud Hasan
VDM Verlag, Germany, 2009. ISBN:978-3-639-19020-5 [[Available at Amazon.com](#)]

Manuscript/Articles to be submitted

64. **Zonohedra, Zone Graphs, and Their Linear Area Straight Line Grid Drawing**

Muhammad Abdullah Adnan, Ifat Afrin, Masud Hasan, Tahmina Khanam, and Mir Monjur-al-Mahmud
Submitted to *International Journal of Computational Geometry and Applications*, **World Scientific**, 2012
13 pages

65. **An $O(n^2)$ Algorithm for Computing Longest Common Cyclic Subsequence**

Shihabur Rahman Chowdhury, Masud Hasan, Sumaiya Iqbal, and M. Sohel Rahman
Manuscript, 12 pages

66. **Characterizing graphs of zonohedra**
 Mohammad Abdullah Adnan and Masud Hasan
 Manuscript, 13 pages
67. **Computing optimal projections of 2D and 3D objects**
 S. M. Shahriar Nirjon, Masud Hasan and Alejandro Lopez-Ortiz
 Manuscript, 12 pages
68. **An external memory algorithm for the range minima/maxima query problem**
 Masud Hasan, Mahmudul Islam, Tanaeem M. Moosa and M. Sohel Rahman
 Manuscript, 10 pages
69. **Synthesis of Ternary Reversible/Quantum Logic Circuits Without Ancillary Bits**
 Md. Mahmud Muntakim Khana, Ayan Biswasa, Shuvro Chowdhury, Masud Hasan, Asif Khan
 Manuscript, 15 pages
70. **Quantum networks for booths and modified booths algorithm for binary multiplication**
 Mahmudul Hasan, Raqibul Hasan, Masud Hasan and Asif Islam Khan
 Manuscript, 6 pages
71. **Realization of single qudit ternary and quaternary comparators on top of Muthukrishnan-Stroud gates**
 Nadia Nusrat, Md. Mahmud Muntakim Khan, Masud Hasan and Asif Islam Khan
 Manuscript, 4 pages
72. **Some circuits for qutrit based quantum computation**
 Md. Mahmud Muntakim Khan, Asif Islam Khan, Nadia Nusrat, Samira Khan and Masud Hasan
 Manuscript, 3 pages
73. **Equiprojective Non-Convex Polyhedra**
 Masud Hasan
 Manuscript, 8 pages

In progress

74. **Design of novel quaternary sequential circuits (Extension of a published paper)**
 Ifat Jahangir, Anindya Das and Masud Hasan
75. **On Extended Order Notations**
 Masud Hasan and Alejandro Lopez-Ortiz
76. **On the design and analysis of quaternary serial and parallel adders (Extension of a published paper)**
 Ifat Jahangir, Anindya Das and Masud Hasan
77. **Approximability of Greedy Shortest Superstring**
 Masud Hasan, Tahmid-un-Nabi, and Ayon Sen
78. **Matchings in Web Search**
 Jenia Tabassum Binte-Jafar, Masud Hasan, and Asif Salekin

79. **Maximum overlap of two convex polygons under rotation**
Masud Hasan and Shahrear Iqbal
80. **Searching for the center of a sphere and an ellipsoid**
Syed Ishtiaque Ahmed, Masud Hasan
81. **Heuristics for vertex cover**
Maruf Ahmed and Masud Hasan
82. **On Some Variants of Matching Problems**
Masud Hasan, Alejandro Lopez-Ortiz, and S. M. Shahriar Nirjon
83. **Move and Cut (Extension of a published paper)**
Syed Ishtiaque Ahmed, Masud Hasan, and Shebuti Rayhana
84. **Structured Search in Small Web Domain**
Masud Hasan, Mohiuddin Abdul Quader, and Sajjadur Rahman

Theses written

85. PhD Thesis
Reconstruction and Visualization of Polyhedra Using Projections
Masud Hasan
School of Computer Science, University of Waterloo, September 2005 [[Online link](#)]
86. MSc Thesis
Efficient Parallel Algorithms for Series-Parallel Graphs
Masud Hasan
Department of Computer Science and Engineering, Bangladesh University of Engineering and Technology, 2001
87. BSc Thesis
Dynamic Programming Based 2-Dimensional Warping Algorithm for Bangla Character Recognition
Masud Hasan and Md. Meftauddin
Department of Computer Science and Engineering, Bangladesh University of Engineering and Technology, 1998

Publication list also available as:

- DBLP Entries [[Online link](#)]
- Google Scholar [[Online link](#)]

TALKS GIVEN

Invited Talks Given

1. **Some Approximation Algorithms for Genome Sorting**
Indiana University-Purdue University at Indianapolis (IUPUI), Indianapolis, IN, USA, December 03, 2010
2. **Sorting Genomes: From Biological Problem to Computer Science Solution**
Asian University, Dhaka, Bangladesh, 31st July, 2008

Conference Talks Given

3. **(Non-)Equiprojectivity and (Non-)Biprojectivity of Simplicial Polyhedra**
Masud Hasan
20th Annual Fall Workshop on Computational Geometry (FWCG 2010), Stony Brook, NY, USA, 29-30 October, 2010
4. **Vindictive Voronoi games and stabbing Delaunay circles**
Syed Ishtiaque Ahmed, Masud Hasan, and Awalyn Sopan
7th International Symposium on Voronoi Diagram in Science and Engineering (ISVD 2010), Quebec City, Canada, June 28-30, 2010
5. **Equiprojective Polyhedra: Recent Results and Future Directions**
Masud Hasan
Fields Discrete Math Days 2010, 14-15 June, 2010, Carleton University, Ottawa, Canada
6. **Maximum neighbor Voronoi games**
Md. Muhibur Rasheed, Masud Hasan and M. Sohel Rahman
3rd Annual Workshop on Algorithms and Computation (WALCOM 2009), Springer LNCS Vol. 5431, Kolkata, India, February 12-14, 2009, pp. 93-104, 2009
7. **Reconstructing convex polygons and polyhedra from edge and face counts in orthogonal projections**
Therese C. Biedl, Masud Hasan and Alejandro López-Ortiz
27th International Conference on Foundation of Software Technology and Theoretical Computer Science (FSTTCS 2007), Springer LNCS Vol. 4855, Springer, New Delhi, India 12-14 December, 2007, pp. 400-411
8. **Novel realization of some ternary circuits for quantum computing**
Asif Khan, Nadia Nusrat, Samira Manabi Khan and Masud Hasan
IEEE TENCON 2006, November 14-17, 2006, Hong Kong
9. **Equiprojective polyhedra**
Masud Hasan and Anna Lubiw
The Coxeter Legacy, Fields Institute, University of Toronto, Ontario, Canada, May 12-16, 2004
10. **Equiprojective polyhedra**
Masud Hasan and Anna Lubiw
15th Canadian Conference on Computational Geometry (CCCG 2003), Halifax, Nova Scotia, Canada, pp. 47-50, August 11-13, 2003

11. **Searching for the center of a circle**
Therese C. Biedl, Masud Hasan, Joe Horton, Alejandro Lopez-Ortiz and Tomas Vinar
14th Canadian Conference on Computational Geometry (CCCG 2002), Lethbridge, Alberta, **Canada**, pp. 137-141, August 11-13, 2003
12. **A linear algorithm for compact box-drawing of trees**
Masud Hasan, Md. Saidur Rahman and Takao Nishizeki
14th Canadian Conference on Computational Geometry (CCCG 2002), Lethbridge, Alberta, **Canada**, pp. 154-157, August 12-14, 2002
13. **A linear algorithm for finding visibility graphs of trees**
Masud Hasan, and Md. Saidur Rahman
International Conference on Electrical and Computer Engineering (ICECE 2001), pp. 287-289, January 5-6, 2001, Dhaka, Bangladesh
14. **An efficient line drawing algorithm**
Masud Hasan and Md. Abul Kashem
2nd International Conference on Computer and Information Technology (ICCIT 1999), pp. 204-207, December 3-5, 1999, Bangladesh

Seminar Talks Given

15. **Neighbourship Voronoi Games**
School of Computer Science, University of Waterloo, **Canada**, July 14, 2010
16. **Efficient viewpoint selection for silhouettes of convex polyhedra.** Algorithm and Complexity
School of Computer Science, University of Waterloo, **Canada**, September 2004
17. **Equiprojective polyhedra,**
School of Computer Science, University of Waterloo, **Canada**, July 2003
18. **Searching for the center of a circle,**
School of Computer Science, University of Waterloo, **Canada**, September 2002

TEACHING EXPERIENCE

| Course Title | Level | No. of Students | Hours per Week | Year |
|---|--------------------------|-----------------|----------------|------|
| CSE 6408: Computational Geometry | Graduate | 40 | 3 | 2012 |
| CSE 6408: Advanced Algorithms | Graduate | 40 | 3 | 2011 |
| CSE 6403: Computational Geometry | Graduate | 37 | 3 | 2009 |
| CSE 6406: Bioinformatics Algorithms | Graduate | 39 | 3 | 2008 |
| CSE 6403: Computational Geometry | Graduate | 31 | 3 | 2007 |
| CSE 463: Computational Geometry | Undergraduate Level 4 | 60 | 3 | 2012 |
| CSE 461: Algorithm Engineering | Undergraduate Level 4 | 53 | 3 | 2011 |
| CSE 462: Algorithm Engineering Laboratory | Undergraduate Level 4 | 53 | 3 | 2011 |
| CSE 207: Algorithms | Undergraduate Level 2 | 130 | 3 | 2011 |
| CSE 211: Theory of Computation | Undergraduate Level 2 | 136 | 2 | 2009 |
| CSE 301: Mathematical Analysis for Computer Science | Undergraduate Level 3 | 141 | 3 | 2009 |
| CSE 421: Basic Graph Theory | Undergraduate Level 4 | 41 | 3 | 2008 |
| CSE 100: Introduction to Computer Systems | Undergraduate Level 1 | 120 | 3 | 2007 |
| CSE 205: Digital Logic Design | Undergraduate Level 2 | 127 | 3 | 2007 |
| CSE 100: Introduction to Computer Systems | Undergraduate Level 1 | 60 | 3 | 2007 |
| CSE 207: Algorithms | Undergraduate Level 2 | 120 | 3 | 2007 |

TEACHING ASSISTANTSHIP EXPERIENCE

University of Waterloo

- CS 341: Algorithms (more than one semester)
- CS 240: Data Structures and Data Management (more than one semester)
- CS 241: Foundations of Sequential Programs (more than one semester)
- CS 251: Computer Organization and Design (more than one semester)

PROFESSIONAL ACTIVITIES

Program Committee Member:

- Workshop on Algorithms and Computation 2012 (WALCOM 2012), Proceedings by **Springer LNCS**
- 2nd National Conference on Communications and Information Security 2007 (NCCIS 2007), Dhaka, Bangladesh

Served as Referee (including as external referee)

Journals:

- Integration, the VLSI Journal, **Elsevier**
- Computational Geometry: Theory and Applications, **Elsevier** (multiple times)
- Discrete Mathematics, **Elsevier**
- International Journal of Computers and Applications, Acta press
- Shahjalal University of Science and Technology Journal, Bangladesh
- University of Dhaka Journal of Sciences, Bangladesh
- South East University Journal, Bangladesh
- Daffodil International University Journal, Bangladesh

Conferences:

- ACM SoCG: ACM Symposium on Computational Geometry (multiple times, most recently for SoCG 2011, 2010; proceedings by **ACM**)
- ESA 2012: European Symposium on Algorithms 2012 (proceedings by **Springer LNCS**)
- WAOA 2011: Workshop on Approximation and Online Algorithms 2011 (proceedings by **Springer LNCS**)
- ISAAC: International Symposium on Algorithms and Computation 2006 (multiple times, most recently for ISAAC 2011; proceedings by **Springer LNCS**)
- WALCOM: Workshop on Algorithms and Computation 2011 (multiple times, most recently for WALCOM 2011, 2010; proceedings by **Springer LNCS**)
- CCCG: Canadian Conference on Computational Geometry (more than ten times, most recently for CCCG 2012)
- ICECE 2006, 2008: International Conference on Electrical and Computer Engineering 2006, 2008
- ICICT 2007: International Conference on Information and Communication Technology 2007

Other Professional Activities

- Organizing Secretary, 2nd Workshop on Algorithms and Computation (WALCOM 2008), February 7-8, 2008, Dhaka, Bangladesh
- Organizing Committee Member, National Conference on Computer and Information Technology 1997 (NCCIT 1997), Dhaka, Bangladesh
- Organizing Committee Member, 2nd International Conference on Computer and Information Technology 1998 (ICCIT 1998), Dhaka, Bangladesh

GRADUATE STUDENT SUPERVISION
(Students' current status given, as of my knowledge)

Masters Students Supervised

1. Maruf Ahmed
Thesis Title : Low Complexity Task Scheduling for Homogeneous and Heterogeneous Parallel Processor
Completed in : June 2008
Current Status : PhD student at University of Sydney, Australia

2. Md. Ashraful Alam
Thesis Title : Nice Projections of Convex Polyhedra
Completed in : June 2008
Current Status : PhD student at the University of Massachusetts, Amherst

3. S. M. Shahriar Nirjon
Thesis Title : Nice Projections of 2D and 3D Objects
Completed in : August 2008
Current Status : PhD student at the University of Virginia

4. Md. Muhibur Rasheed
Thesis Title : Voronoi Neighbours: Optimization, Variation and Games
Complete in : August 2008
Current Status : PhD student at the University of Texas, Austin

5. Md. Monoar Hossain
Thesis Title : Some New Equiprojective Polyhedra from Tetrahedra and Johnson Solids
Completed in : January 2009
Current Status : Magistrate, Government of Bangladesh

Ongoing Master's Thesis Supervision

6. Subhabrata Saha Tentative topic: Expressions for Multi-valued Logic Functions
7. Nusrat Sultana Tentative topic: Fast Sorting
8. Md. Ashraful Hakim Tentative topic: Voronoi Games
9. Nazmun Nahar Tentative topic: Efficient Cuts
10. S.M. Shahnewaz Ferdous Tentative topic: Variants of Lists
11. Md. Mahbubul Alam Tentative topic: Variants of Heaps
12. Nisat Sarwar Tentative topic: Heuristics for Vertex Cover
13. Md. Shamiul Alam Tentative topic: Paging for Multiple-Processors
14. Mahmud Salam Maruf

UNGRADUATE THESES SUPERVISION
(Students' current status given, as of my knowledge)

Undergraduate Theses Supervised

1. Title : Approximation Algorithms for Some Problems in Bioinformatics
Students : Atif Hasan Rahman (Currently a PhD student with Full Bright Scholarship at the University of California, Berkeley, USA) and Swakkhar Satabda (Currently a PhD student at NICTA, Australia)
Year : 2007
2. Title : Designing Multi-valued Quantum Circuits
Students : Nadia Nusrat (Currently a Masters student at University of Florida, USA) and Samira Manabi Khan (Currently a PhD student at the University of Texas, San Antonio, USA)
Year : 2007
3. Title : A Review of Wireless Ad-Hoc Routing
Students : Ishtiaq Ahmed (Currently at Google, Canada as a Software Engineer) and Ahsanul Karim
Year : 2007
4. Title : Study of Equiprojective Polyhedra
Students : Nabila Rahman (Currently a PhD student at the University of Delaware, USA) and Saad Altaful Quader (Currently a graduate student at the University of Connecticut, USA)
Year : 2007
5. Title : Study of the Application of Polygon Triangulation
Students : Ayesha Akhter (Currently at Grameen Phone, Bangladesh)
Year : 2007
6. Title : Problems on Computational Geometry
Students : Soumit Salman Rahman (Currently at Microsoft, China, as a Software Development Engineer)
Year : 2008
7. Title : Study of Quantum Computing
Students : Ahmed Tariq Aziz (Currently at Ericsson, Bangladesh) and Md. Mainul Mizan (Currently at iball, Bangladesh)
Year : 2008
8. Title : Algorithms in Bioinformatics
Students : Golam Sarwar and Md. Jamiul Jahid (Currently a graduate student at the University of Texas, San Antonio, USA)
Year : 2008
9. Title : Algorithms in Bioinformatics
Students : Kazi Rubaiyat Habib and Md. Mahbub Hasan (Currently at ACI, Bangladesh)
Year : 2008

10. Title : Computer Hardware and Software Quality Testing
Students : Md. Zahid Hossain and
Md. Ashik Rabbani
Year : 2008
11. Title : Algorithms in Computational Geometry
Students : Syed Ishtiaque Ahmed (Currently a Lecturer at BUET, Dhaka) and Md. Ariful Islam
(Currently a PhD student at the State University of New York, USA)
Year : 2009
12. Title : Algorithms in Bioinformatics
Students : Mahfuza Sharmin(Currently a Lecturer at BUET, Dhaka) and Rukhsana yeasmin
(Currently a PhD student at the State University of New York, USA)
Year : 2009
13. Title : Quantum Computing
Students : Md. Mahmudul Hasan and Md. Raqibul Hasan (Both of them currently at East West
University, Dhaka, as research assistant)
Year : 2009
14. Title : Algorithms in Bioinformatics
Students : Md. Hasanuzzaman Bhuiyan (Currently a PhD student at the Virginia Polytechnic
Institute, USA) and Shuvra Kanti Nath (Currently a graduate student at the Texas A&M
University, USA)
Year : 2009
15. Title : Playing with 3D Objects
Students : Sabrina Nusrat (Currently a graduate student at the University of Saskatchewan,
Canada)
Year : 2009
16. Title : Cache Oblivious Data Structures and Algorithms
Students : Mahmudul Islam
Year : 2009
17. Title : Algorithms in Bioinformatics
Students : Shihabur Rahman Chowdhury (Currently a graduate student at the University of
Waterloo, Canada) and Sumaiya Iqbal (Current a Lecturer at BUET, Dhaka)
Year : 2009
18. Title : Algorithms in Bioinformatics
Students : Amit Kumar Dutta and Ashik Zinnat Khan
Year : 2009
19. Title : Some Problems on Computational Geometry and 3-Connected Planar Graphs
Students : Ifat Afrin Currently a Lecturer at DUET, Bangladesh), Mir Monjur Al-Mahmud, and
Tahmina Khanam
Year : 2009
20. Title : Structured Search in Small Web Domain
Students : Sajjadur Rahman (Currently a Lecturer at BUET, Dhaka) and Mohiuddin Abdul
Quader
Year : 2012

21. Title : Approximation Algorithms for Shortest Superstring Problem
 Students : Md. Tahmid-un-Nabi (Currently a Software Engineer at Thrap, Bangladesh) and Ayon Sen (Currently a Lecturer at BUET, Dhaka)
 Year : 2012
22. Title : Matchings in Web Search
 Students : Asif Salekin (Currently a Lecturer at Ahsun-Ullah University of Science and Technology) and Jeniya Tabassum
 Year : 2012
23. Title : Cutting Polyhedra in 3D
 Students : Moin Mostakim
 Year : 2012

Undergraduate Theses Currently Supervising

24. Title : Structured Web Search
 Students : Farzana Binte Yusuf and Kaniz fatema
25. Title : Some Permutations Operations on Polygons
 Students : Lubaba Nuzhat Tasneem and Nawrin Sultana
26. Title : Bioinformatics Algorithms
 Students : Dipan Lal Shaw and Shuvashish Karmaker
27. Title : Quantum Computing
 Students : Md. Masudur Rahman and Nagib Meshkat

IN PhD THESIS BOARD OF EXAMINERS

1. Md. Rezaul Karim 2008

IN MASTERS THESES BOARD OF EXAMINERS

1. Md. Tanveer Parvez 2006
 2. Md. Tanvir Irfan 2006
 3. Tanzima Hashem 2006
 4. Mohammad Amir Sharif 2006
 5. Utpal Kumar Paul 2007
 6. Md. Ashfaq Habib 2007
 7. Md. Shahidul Islam 2007
 8. Mushfiqur Rouf 2007
 9. Khaled Mahmud Shahriar 2008
 10. Md. Abedul Haque 2008
 11. Md. Shariful Islam Bhuiyan 2008
 12. Chowdhury Sayeed Haider 2009
 13. Md. Ehteshamul haque 2009
 14. Md. Abdul Wahid 2011
 15. Md. Abdul Wahid Akand 2012
 16. Mahfuza Sharmin 2012

DEPARTMENTAL CONTRIBUTION (AT BUET) OTHER THAN TEACHING AND RESEARCH

(a) Curriculum improvement:

- Undergraduate Syllabus Committee member
 - Update the entire undergraduate syllabus, ongoing, 2012
- Designed the syllabus of the following graduate level courses
 - CSE 6408: Advanced Algorithms
- Reviewing Graduate Course Syllabus
 - CSE 6407: Combinatorial Optimization
 - CSE 6409: Stringology
- Syllabus adjustment for the following undergraduate courses
 - CSE 211: Theory of Computation
 - CSE 309 Compiler
- Laboratory guideline for the following undergraduate courses
 - CSE 100: Introduction to Computers

(b) Laboratory development:

- Proposal preparation for Graduate Research Lab of CSE Department

(c) Production of teaching aids

- Prepared power point presentation slides and course materials for the following courses:
 - CSE 100: Introduction to Computer Systems
 - CSE 6403: Computational Geometry
 - CSE 6406: Bioinformatics Algorithms

(d) Student Advising:

- Student Advising, 40 students, from 2011 to date
- Student Advising, 60 students, from 2005 to 2010

(e) Member of Different Committees:

- Member Secretary, Faculty of Electrical Engineering (July 2010 – date)
- Member Secretary, Board of Undergraduate Studies (BUGS) (May 2006 – May 2007)
- Member, CSE Department Board of Postgraduate Studies from 2006 to date
- Member, CSE Department Board of Undergraduate Studies from December 1998 to UGUST 2001 and from November 2005 to date
- Member, CSE Department Examination Committee, 2005 – to date
- Member, EEE Faculty, December 2005 - to date
- Member, CSE Department Post Graduate Admission Committee, April 2006 - date
- Member, CSE Department Doctoral Admission Committee, April 2006 - date
- Member, Committee for transferring the department to the new academic building
- Member, CSE Departmental Presentation Committee in various occasion
- Member, Organizing Committee of Graduate Students Orientation, CSE Department 2008
- Member, CSE Departmental Leaflet Preparation Committee, 2009
- Member, CSE Department Graduate Research Lab Development Committee, 2008 to date
- Member, CSE Festival Organizing Committee, 2007, 2008
- Member, Organizing Committee of Undergraduate CSE Students Orientation, 2007, 2008
- Member, Organizing Committee, Lab and Course inauguration at IAC by Honorable Education Minister of Bangladesh, 2009

CONTRIBUTION TO THE UNIVERSITY ADMINISTRATION (AT BUET)

(a) Activities assigned by University Authorities in addition to own duties:

- Member, Computer Group for Undergraduate Admission Test, 2006, 2007
- Member, Picture Scanning and Verification Group for Undergraduate Admission Test, 2009

(b) Student's Resident Administration:

- Assistant Provost, Shaheed Smrity Hall, BUET (January 1, 2006 – December 31, 2008).

GRADUATE COURSE DESIGN

- CSE 6408: Advanced Algorithms (for CSE Department, BUET)

PROGRAMMING LANGUAGE EXPERTISE

- C
- Pascal
- Prolog
- Lisp
- Assembly Language
- SQL
- Visual Basics

WORD PROCESSING EXPERTISE

- LaTeX

CO CURRICULAR ACTIVITIES

- Played Basket Ball in **Bangladesh First Division League** from 1997-2001 for Rangers team
- Played **Inter University Basket Ball Championship** from 1997-1998 for BUET team
- Played **Inter Hall Basket Ball Competition** at BUET from 1996-1998 for Nazrul Islam Hall
- Played **Inter Faculty Volley Ball Competition** for Electrical Faculty of BUET in 2001 and became Champion

REFERENCES

1. **Dr. Alejandro López-Ortiz** (PhD co-supervisor and Postdoc supervisor))
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Cheriton School of Computer Science
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Waterloo, Ontario N2L 3G1, Canada
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Web : <http://www.cs.uwaterloo.ca/~alopez-o/>
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Bangladesh University of Engineering and Technology
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Fax : +880 2 966 5612
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Web : http://www.angelfire.com/space2/m_kaykobad/
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Associate Professor
Department of Computer Science
University of Wisconsin-Milwaukee
Milwaukee, WI 53211, U.S.A
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Fax : +1 414-229-2769
Email : dumitres@uwm.edu
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Fax : +1 425 936 7329
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5. **Dr. Therese C. Biedl** (PhD co-supervisor)
Associate Professor
Cheriton School of Computer Science
University of Waterloo
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Fax : +1 519 885 1208
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6. **Dr. A. S. M. Latiful Haque**
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Dhaka-1000
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Phone: +880 155 634 6357

 7. **Dr. Md. Monirul Islam** (most recent Ex Head of the Department)
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Phone: +880 1731 666995
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