CV

Dr. Masud Hasan

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(On leave from Bangladesh University of Engineering and Technology)

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SUMMARY OF QUALIFICATIONS

- TWAS-Bangladesh Academy of Sciences Young Scientist Award for Bangladeshi Scientists for 2011 (Gold Medal)
- PhD from the University of Waterloo, Canada
- Postdoctoral Fellowships in the University of Wisconsin-Milwaukee, USA and the University of Waterloo, Canada.
- 15 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.
- 10 years experience in university teaching in both graduate and undergraduate levels.
- 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

- o Computational Geometry
- o Algorithms
- o Approximation Algorithms
- o Bioinformatics Algorithms
- o Multi-valued Quantum Circuit Design

TEACHING INTERERST

Undergraduate Level Courses

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

Graduate Level Courses

- o Advanced Algorithms
- o Theory of Computation
- o Computational Geometry
- o Algorithms in Bioinformatics
- o Applied Combinatorics and Graph Theory
- o Quantum Computing
- o 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-Champagne), 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	Gold Medal (US $500)	Research	Bangladesh University of Engineering & Technology	2011	Given by Bangladesh Academy of Sciences (in conjunction with 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
NSERC Visiting Fellowships in Canadian Government Laboratories	Primary selection	Research	Canadian Government Laboratories	2011	Finally not selected
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	2001	
Dean's List	BDT 5,000 per year for four years	For Undergrad Academic Excellence	Bangladesh University of Engineering & Technology	1993-1996	

OTHER ACADEMIC ACHIEVEMENTS

- 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   : Taibah University, Madinah Munawwarah, Saudi Arabia
  Period   : May 2013 - Current
  Responsibilities:
    - Undergraduate course teaching, exam question setting, marking.
    - Undergraduate project supervision.

- **Professor**
  Institute   : Bangladesh University of Engineering and Technology (BUET)
  Period   : April 2012 – May 2013.
                    May 2013 - Current (On Leave)
  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.

- **Associate 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.

International Peer Reviewed Journals

1. **Pancake flipping and sorting permutations**
   Masud Hasan, Atif Rahman, Md. Khaledur Rahman, M. Sohel Rahman, Mahfuza Sharmin, and Rukhsana Yeasmin
   Journal of Discrete Algorithms, **33,** pp. 139-149, July 2015 **Elsevier.** [Online link]

2. **Protein Folding in HP Model on Hexagonal Lattices with Diagonals**
   Dipan Lal Shaw, A. S. M. Sohidull Islam, Masud Hasan and M. Sohel Rahman
   BMC Bioinformatics 2014, **15** (Suppl 2):S7 [Online link]

3. **On Fixed Size Projection of Convex Polyhedra**
   Masud Hasan
   Information Processing Letters 113 (18), pp. 265 – 270, **Elsevier,** 2013 [Online link]

4. **Cutting Out Polygons with a Circular Saw**
   Adrian Dumitrescu, Masud Hasan
   International Journal of Computational Geometry and Applications 23(2), pp. 127 – 139, **World Scientific,** 2013 [Online link]

5. **Prefix transpositions on binary and ternary strings**
   Amit Kumar Dutta, Masud Hasan and M. Sohel Rahman
   Information Processing Letters 113(8), pp. 265-270, 2013, **Elsevier** [Online link]

6. **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]

7. **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]

8. **Efficient viewpoint selection for silhouettes of convex polyhedra**
   Therese C. Biedl, Masud Hasan, and Alejandro Lopez-Ortiz
   Comutational Geometry: Theory and Application 44(8), pp. 399-408, 2011, **Elsevier**
   [Online link]

9. **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]

10. **Computing nice projections of convex polyhedra**
    Md. Ashraful Alam and Masud Hasan
    International Journal of Computational Geometry and Applications 21(1), pp. 71-85, 2011, **World Scientific**, [Online link]

11. **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]

12. **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]

13. **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]

14. **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]

15. **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]

16. **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]

17. **Equiprojective polyhedra**
    Masud Hasan and Anna Lubiw
    Computational Geometry: Theory and Applications 40(2), pp. 148-155, 2008, **Elsevier**
    [Online link]

18. **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]

Book chapters

19. **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]

20. **On Collections of Polygons Cuttable with a Segment Saw**
    Adrian Dumitrescu, Anirban Ghosh, Masud Hasan
    In Proc. Conference on Algorithms and Discrete Applied Mathematics (CALDAM 2015),
    LNCS Vol. 8959, pp. 58-68, Kanpur, India, February 8-10, 2015 **Springer** [Online link]

21. **Natural Watch**
    Masud Hasan, Syed Mahmudul Hasan and Md. Mamun Kaiser Zisan
    In Proc. Workshop on Mobile Computing and Human Computer Interaction (MoHCI), Dhaka,
    Bangladesh, February 13-14, 2014 [Online link]
    [Best Papers Award-2nd Runner Up]

22. **Protein Folding in HP Model on Hexagonal Lattices with Diagonals**
    Dipan Lal Shaw, A. S. M. Sohidull Islam, Masud Hasan and M. Sohel Rahman
    In Proc. 12-th Asia Pacific Bioinformatics Conference 2014, Shanghai, China, January 17-19,
    2014 [Online link]

23. **Zonohedra, Zone Graphs, and Their Linear Area Straight Line Grid Drawing**
    Muhammad Abdullah Adnan, Ifat Afrin, masud Hasan, Tahmina Khanam, Mir Monjur Al-Mahmud
    In Proc. Workshop on Graph Drawing and Graph Algorithms (GDGA) January 26-27, 2013,
    Dhaka, Bangladesh [Online link]

24. **Extract and rank web communities**
    Asif Salekin, Jeniya Tabassum Binte Jafar, Masud Hasan
    In Proc. 3rd International Conference on Web Intelligence, Mining and Semantics, WIMS '13, Madrid,
    Spain, June 12-14, 2013. **ACM**, Paper ID: 25 [Online link]

25. **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, pp. 1021-
    1026, May 18-21, 2012, Dhaka [Online link]

26. **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]

27. **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]

28. **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]

29. **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]

30. **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]

31. **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]

32. **(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]

33. **Vindictive Voronoi games and stabbing Delaunay circles**
Syed Ishtiaque Ahmed, Masud Hasan, and Awalin 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]

34. **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 <u>36</u>, 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

35. **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]

36. **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]

37. **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]

38. **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]

39. **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]

40. **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]

41. **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]

42. **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]

43. **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]

44. **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]

45. **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]

46. **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]

47. **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]

48. **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]

49. **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]

50. **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, Hydrabad, India, November 18-21, 2008, pp. 1-5
[Online link]

51. **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]

52. **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]

53. **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**]**

54. **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]

55. **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]

56. **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]

57. **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**

58. **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

59. **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]

60. **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]

61. **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)]

62. **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)]

63. **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

64. **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

65. **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

66. **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]**

67. **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

68. **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

69. **Characterizing graphs of zonohedra**
Mohammad Abdullah Adnan and Masud Hasan
Manuscript, 13 pages

70. **Computing optimal projections of 2D and 3D objects**
S. M. Shahriar Nirjon, Masud Hasan and Alejandro Lopez-Ortiz
Manuscript, 12 pages

71. **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

72. **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

73. **Quantum networks for booths and modified booths algorithm for binary multiplication**
Mahmudul Hasan, Raqibul Hasan, Masud Hasan and Asif Islam Khan
Manuscript, 6 pages

74. **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

75. **Some circuits for qutrit based quantum computation**
Md. Mahmud Muntakim Khan, Asif Islam Khan, Nadia Nusrat, Samira Khan and Masud Hasan
Manuscript, 3 pages

76. **Equiprojective Non-Convex Polyhedra**
Masud Hasan
Manuscript, 8 pages

In progress

77. **Design of novel quaternary sequential circuits (Extension of a published paper)**
Ifat Jahangir, Anindya Das and Masud Hasan

78. **Extended Order Notations**
Masud Hasan and Alejandro Lopez-Ortiz

79. **On the design and analysis of quaternary serial and parallel adders (Extension of a published paper)**
Ifat Jahangir, Anindya Das and Masud Hasan

80. **Approximability of Greedy Shortest Superstring**
Masud Hasan, Tahmid-un-Nabi, and Ayon Sen

81. **Matchings in Web Search**
Jenia Tabassum Binte-Jafar, Masud Hasan, and Asif Salekin

82. **Maximum overlap of two convex polygons under rotation**
Masud Hasan and Shahrear Iqbal

83. **Searching for the center of a sphere and an ellipsoid**
Syed Ishtiaque Ahmed, Masud Hasan

84. **Heuristics for vertex cover**
Maruf Ahmed and Masud Hasan

85. **On Some Variants of Matching Problems**
Masud Hasan, Alejandro Lopez-Ortiz, and S. M. Shahriar Nirjon

86. **Move and Cut (Extension of a published paper)**
Syed Ishtiaque Ahmed, Masud Hasan, and Shebuti Rayhana

87. **Structured Search in Small Web Domain**
Masud Hasan, Mohiuddin Abdul Quader, and Sajjadur Rahman

Theses written

88. PhD Thesis
Reconstruction and Visualization of Polyhedra Using Projections
Masud Hasan
School of Computer Science, University of Waterloo, September 2005 [Online link]

89. MSc Thesis
Efficient Parallel Algorithms for Series-Parallel Graphs
Masud Hasan
Department of Computer Science and Engineering, Bangladesh University of Engineering and Technology, 2001

90. 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]

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

3. **Future Computing and the Steiner Tree Problem**
   In Workshop on Graph Drawing and Graph Algorithms (GDGA) January 26-27, 2013, Dhaka, Bangladesh [Online link]

Conference Talks Given

4. **(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

5. **Vindictive Voronoi games and stabbing Delaunay circles**
   Syed Ishtiaque Ahmed, Masud Hasan, and Awalin Sopan
   7th International Symposium on Voronoi Diagram in Science and Engineering (ISVD 2010), Quebec City, **Canada,** June 28-30, 2010

6. **Equiprojective Polyhedra: Recent Results and Future Directions**
   Masud Hasan
   Fields Discrete Math Days 2010, 14-15 June, 2010, Carleton University, Ottawa, **Canada**

7. **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, 2008, pp. 93-104, 2009

8. **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

9. **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**

10. **Equiprojective polyhedra**
    Masud Hasan and Anna Lubiw
    The Coxeter Legacy, Fields Institute, University of Toronto, Ontario, **Canada,** May 12-16, 2004

11. **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

12. **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

13. **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

14. **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

15. **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

16. **Neighbourship Voronoi Games**
    School of Computer Science, University of Waterloo, **Canada,** July 14, 2010

17. **Efficient viewpoint selection for silhouettes of convex polyhedra.** Algorithm and Complexity
    School of Computer Science, University of Waterloo, **Canada,** September 2004

18. **Equiprojective polyhedra,**
    School of Computer Science, University of Waterloo, **Canada,** July 2003

19. **Searching for the center of a circle,**
    School of Computer Science, University of Waterloo, **Canada,** September 2002

Others Talks Given

20. Several talks at different higher studies seminars for students at BUET, during 2005-2013

Course Title	Level	No. of Students	Hours per Week	Year
CSE 6408: Computational Geometry	Graduate	40	3	2012 in BUET
CSE 6408: Advanced Algorithms	Graduate	40	3	2011 in BUET
CSE 6403: Computational Geometry	Graduate	37	3	2009 in BUET
CSE 6406: Bioinformatics Algorithms	Graduate	39	3	2008 in BUET
CSE 6403: Computational Geometry	Graduate	31	3	2007 in BUET
CS 405: Analysis of Algorithms	Undergraduate Level 4		3	Jan. 2016 at Taibah
CS 205: Computer Programming	Undergraduate Level 2		3	Jan. 2016 at Taibah
CS 301: Theory of Computation	Undergraduate Level 3	31	3	Aug. 2015 at Taibah
CS 103: Discrete Structures	Undergraduate Level 1	23	3	Aug. 2015 at Taibah
CS 405: Analysis of Algorithms	Undergraduate Level 4	16	3	Jan. 2014 at Taibah
CS 103/201: Discrete Structures	Undergraduate Level 1, 2	30+35	3	Sept. 2014 at Taibah
CS 202: Algorithms and Data Structures	Undergraduate Level 2	42+17	3 + Lab supervision	January 2014 at Taibah
CSE 103: Discrete Mathematics	Undergraduate Level 1	120	3	2013 in BUET
CSE 300: Technical Writing and Presentation	Undergraduate Level 3	120	3	2013 in BUET
CS 345: Theory of Computation	Undergraduate Level 3	5	2 + Lab supervision	June 2013 at Taibah
CS 301: Theory of Computation	Undergraduate Level 3	50	3	Sept. 2013 at Taibah
CS 351: File Structures	Undergraduate Level 3	6	2 + Lab supervision	Sept. 2013 at Taibah
CSE 463: Computational Geometry	Undergraduate Level 4	60	3	2012 in BUET
CSE 461: Algorithm Engineering	Undergraduate Level 4	53	3	2011 in BUET
CSE 462: Algorithm Engineering Laboratory	Undergraduate Level 4	53	3	2011 in BUET
CSE 207: Algorithms	Undergraduate Level 2	130	3	2011 in BUET
CSE 211: Theory of Computation	Undergraduate Level 2	136	2	2009 in BUET
CSE 301: Mathematical Analysis for Computer Science	Undergraduate Level 3	141	3	2011 in BUET
CSE 421: Basic Graph Theory	Undergraduate Level 4	41	3	2011 in BUET
CSE 100: Introduction to Computer Systems	Undergraduate	120	3	2011 in

Course Title	Level	No. of Students	Hours per Week	Year
	Level 1			BUET
CSE 205: Digital Logic Design	Undergraduate Level 2	127	3	2011 in BUET
CSE 100: Introduction to Computer Systems	Undergraduate Level 1	60	3	2011 in BUET
CSE 207: Algorithms	Undergraduate Level 2	120	3	2011 in BUET

EXPERIENCE IN TEACHING ASSISTANTSHIP

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
- Workshop on Graph Drawing and Graph Algorithms (GDGA) January 26-27, 2013, Dhaka, Bangladesh [Online link]

Served as Reviewer (including as external reviewer)
Journals:
- International Journal of Graph Algorithms and Applications
- SIAM Journal on Discrete Mathematics
- 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

Masters Students Supervised

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

2. Md. Ashraful Alam
   Thesis Title   : Nice Projections of Convex Polyhedra
   Completed in   : June 2008
   Next 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
   Next Status : PhD student at the University of Virginia

4. Md. Muhibur Rasheed
   Thesis Title   : Voronoi Neighbours: Optimization, Variation and Games
   Complete in   : August 2008
   Next 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
   Next Status : Magistrate, Government of Bangladesh

Unfinished Master's Thesis Supervision (due to moving at Taibah University)

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

Undergraduate Theses Supervised

1. Title   : Approximation Algorithms for Some Problems in Bioinformatics
   Students : Atif Hasan Rahman (Next a PhD student with Full Bright Scholarship at the University
   of California, Berkeley, USA) and Swakkhar Satabda (Next a PhD student at NICTA,
   Australia)
   Year   : 2007

2. Title   : Designing Multi-valued Quantum Circuits
   Students : Nadia Nusrat (Next a Masters student at University of Florida, USA) and
   Samira Manabi Khan (Next 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 (Next at Google, Canada as a Software Engineer) and
   Ahsanul Karim
   Year   : 2007

4. Title   : Study of Equiprojective Polyhedra
   Students : Nabila Rahman (Next a PhD student at the University of Delaware, USA) and
   Saad Altaful Quader (Next a graduate student at the University of Connecticut,   USA)
   Year   : 2007

5. Title   : Study of the Application of Polygon Triangulation
   Students : Ayesha Akhter (Next at Grameen Phone, Bangladesh)
   Year   : 2007

6. Title   : Problems on Computational Geometry
   Students : Soumit Salman Rahman (Next at Microsoft, China, as a Software Development
   Engineer)
   Year   : 2008

7. Title   : Study of Quantum Computing
   Students : Ahmed Tariq Aziz (Next at Ericsson, Bangladesh) and
   Md. Mainul Mizan (Next at iball, Bangladesh)
   Year   : 2008

8. Title   : Algorithms in Bioinformatics
   Students : Golam Sarwar and
   Md. Jamiul Jahid (Next 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 (Next 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 (Next a Lecturer at BUET, Dhaka) and
                Md. Ariful Islam (Next a PhD student at the State University of New York, USA)
    Year   : 2009

12. Title   : Algorithms in Bioinformatics
    Students : Mahfuza Sharmin(Next a Lecturer at BUET, Dhaka) and
                Rukhsana yeasmin (Next 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 (Next both of them at East West
                University, Dhaka, as research assistant)
    Year   : 2009

14. Title   : Algorithms in Bioinformatics
    Students : Md. Hasanuzzaman Bhuiyan (Next a PhD student at Virginia Polytechnic Institute,
                USA) and Shuvra Kanti Nath (Next a graduate student at the Texas A&M University,
                USA)
    Year   : 2009

15. Title   : Playing with 3D Objects
    Students : Sabrina Nusrat (Next 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 (Next a graduate student at the University of Waterloo,
                Canada) and Sumaiya Iqbal (Next 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 (Next 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 (Next a Lecturer at BUET, Dhaka) and Mohiuddin Abdul Quader
    Year   : 2012

21. Title   : Approximation Algorithms for Shortest Superstring Problem
    Students   : Md. Tahmid-un-Nabi (Next a Software Engineer at Thrap, Bangladesh)
                 and Ayon Sen (Next a Lecturer at BUET, Dhaka)
    Year   : 2012

22. Title   : Matchings in Web Search
    Students   : Asif Salekin (Next a Lecturer at Ahsun-Ullah University of Science and Technology)
                 and Jeniya Tabassum
    Year   : 2012

23. Title   : Cutting Polyehdra in 3D
    Students   : Moin Mostakim
    Year   : 2012

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

28. Title   : VEESA: Visitor Emergency and Essential Guide for Saudi Arabia
    Students   : Mohammad Ahmed Aljohani, Abdulmajed Khaled Alansari, Mohammad Saleh
                 Alshamrani, Shahed Nasser Maqsoud

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 |

IN UNDERGRADUATE THESIS/PROJECT BOARD OF EXAMINERS

In Taibah University

1. **Title:** Book Fair Book Finder
   Students: Mushab Masur ALsayedani, Abdulhakim Algamdi, Talal Ied Alanzi, and Osam Abdulaziz
   Year: December 2013

2. **Title:** Interactive Web and Android Application For Facilitating Holy Quran Memorization
   Students: Hasan Ahmed Meftah, Zayed Ahmed Ali, Zamil Khaled Saleh, and Mohammad Saleh Alharbi
   Year: May and December 2014

3. **Title:** Forecasting the onset of diabetes
   Students: Nawaf Al Qrafi, Ahmed Al Salek, Naif Al Borkani, and Muwaffaq Turxtani
   Year: December 2015

4. **Title:** Quranic Word Meaning-Based Search System
   Students: Mohammed Al-Maghrabi, Hossam Faqeh, and Yazan Turjoman
   Year: December 2015

DEPARTMEN/COLLEGE CONTRIBUTION OTHER THAN TEACHING AND RESEARCH

In Taibah University

(a) Curriculum improvement:
- Head of Undergraduate Curriculum Committee
  1. Update the entire undergraduate curriculum, 2013

(b) Self-Evaluation for CS Department:
- Coordinate and Prepare report for Self-Evaluation of CS Department, 2016
- Prepare report for Self-Evaluation of CS Department, 2014

(c) Student Advising:
- Undergraduate students supervision from September 2014 to date

(d) Member of Different Committees:
- Member, Undergraduate College Curriculum Committee, 2013 to date
- Member, 3+1 Program Committee for CS department (Students go to foreign universities to finish their final year after completing first three years here.)

In BUET

(e) 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

(f) Laboratory development:
- Proposal preparation for Graduate Research Lab of CSE Department

(g) 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

(h) Student Advising:
- Student Advising, 40 students, from 2011 to 2013
- Student Advising, 60 students, from 2005 to 2010

(i) 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).

COURSE DESIGN

- Graduate Course CSE 6408: Advanced Algorithms (for CSE Department, BUET)
- Undergraduate Course CS 471: Introduction to Bioinformatics (for CS Department, Taibah)
- Graduate Course CS 894: Research Methodology (for CS Department, Taibah)

PRGOGRAMMING LANGUAGE EXPERTISE

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

WORD PROCESSING EXPERTISE

- LaTeX

MISCELLANEOUS

- Number of recommendation letters given to the students for their higher studies: about 450 (Year 2011-12: about 100, Year 2012-13: about 150. Year: 2013-2014: about 50)

- Won the "Best Teacher Award" in 2002 in Sunrise Coaching Center for University Admission in Bangladesh.

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. Khaled Aloufi**
   Dean, College of Computer Science and Engineering
   Taibah University
   Madinah Al Munawwarah, Saudi Arabia
   Email: kalawfi@yahoo.com

2. **Dr. Mahmoud Al-Harby**
   Head, Department of Computer Science
   College of Computer Science and Engineering
   Taibah University
   Madinah Al Munawwarah, Saudi Arabia
   Email: dr.malharbe@gmail.com

3. **Dr. Saad Al-Harby**
   Dean, Deanship of IT
   And Associate Professor, College of Computer Science and Engineering
   Taibah University
   Madinah Al Munawwarah, Saudi Arabia
   E-mail: salharbi20@gmail.com

4. **Dr. Ahmad Hawalah**
   Vice-Dean, College of Computer Science and Engineering
   Taibah University
   Madinah Al Munawwarah, Saudi Arabia
   E-mail: ahawalah@taibahu.edu.sa

5. **Dr. Alejandro López-Ortiz** (PhD co-supervisor and Postdoc supervisor))
   Associate Professor
   Cheriton School of Computer Science
   University of Waterloo
   Waterloo, Ontario N2L 3G1, Canada
   Phone   : +1 519 888 4567 Ext. 33284
   Fax   : +1 519 885 1208
   Email   : alopez-o@uwaterloo.ca
   Web   : http://www.cs.uwaterloo.ca/~alopez-o/

6. **Dr. M. Kaykobad**
   Professor
   Department of Computer Science and Engineering
   Bangladesh University of Engineering and Technology
   Dhaka 1000, Bangladesh
   Phone   : +880 155 246 3351
   Fax   : +880 2 966 5612
   Email   : kaykobad@cse.buet.ac.bd, mkbd1234@yahoo.com
   Web   : http://www.angelfire.com/space2/m_kaykobad/

7. **Dr. Adrian Dumitrescu** (Postdoc Supervisor)
   Associate Professor
   Department of Computer Science
   University of Wisconsin-Milwaukee
   Milwaukee, WI 53211, U.S.A
   Phone   : +1 414-229-4265
   Fax   : +1 414-229-2769
   Email   : dumitres@uwm.edu
   Web   : http://www.cs.uwm.edu/faculty/ad/

8. **Dr. Suman Nath**
   Researcher
   Microsoft Research
   One Microsoft Way, Redmond, WA 98052, U.S.A
   Phone   : +1 425 706 8072
   Fax   : +1 425 936 7329
   Email   : sumann@microsoft.com
   Web   : http://research.microsoft.com/en-us/people/sumann/

9. **Dr. Therese C. Biedl** (PhD co-supervisor)
   Associate Professor
   Cheriton School of Computer Science
   University of Waterloo
   Waterloo, Ontario N2L 3G1, Canada
   Phone   : +1 519 888 4567 Ext. 34721
   Fax   : +1 519 885 1208
   Email   : biedl@uwaterloo.ca
   Web   : http://www.cs.uwaterloo.ca/~biedl/