MD SOLIMUL CHOWDHURY

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EDUCATION

Doctor of Philosophy   *September 2016 - Present*
GPA: 4.0/4.0.
Thesis: Exploration-Driven Boolean Satisfiability (SAT) Solving.
Supervisors: Prof. Martin Müller and Prof. Jia-Huai You.
Department of Computing Science.
University of Alberta, Edmonton, AB, Canada.

Masters of Science   *September 2009 - September 2011*
GPA: 3.7/4.0.
Thesis: SAT with Global Constraints
Supervisor: Prof. Jia-Huai You.
Department of Computing Science.
University of Alberta, Edmonton, AB, Canada.

Bachelor of Science   *January 2004 - October 2007*
GPA: 4.67/5.0.
Thesis: Haplotype Inference by Pure Parsimony by SAT Solver in Distributed Environment
Supervisor: Assistant Prof. Sardar Haque.
Department of Computer Science and Information Technology.
Islamic University of Technology, Gazipur, Dhaka, Bangladesh.

PUBLICATIONS

Peer Reviewed
7. **Chowdhury, M.**, Müller M. and You, J: Guiding CDCL SAT Search via Random Exploration amid Conflict Depression. To appear in AAAI-2020. **Selected for Oral presentation.**
6. **Chowdhury, M.**, Müller M. and You, J: Exploiting Glue Clauses to Design Effective CDCL Branching Heuristics. CP-2019: 126-143 .
5. **Chowdhury, M.**, Müller M. and You, J: Preliminary Results on Exploration-Driven Satisfiability Solving. AAAI-2018. **Student Abstract Finalist.**
4. Liu, F., Bi, Y., **Chowdhury, M.**, You, J., and Feng, Z. (2016) Flexible Approximators for Approximating Fixpoint Theory. Proceedings of the 29th Canadian Conference on AI: 224-236.
3. **Chowdhury, M.**, Liu, F., Chen, W., Karimi, A., and You, J. (2014) Polynomial Approximation to Well-Founded Semantics for Logic Programs with Generalized Atoms: Case Studies. Proceedings of the 24th International Symposium on Logic Based Program Synthesis and Transformation (LOPSTR): 279-296.
2. **Chowdhury, M.** and You, J. (2012) SAT with Global Constraints. Proceedings of the 24th International Conference on Tools with Artificial Intelligence (ICTAI): 73-80 (MSc work).
1. **Chowdhury, M.**, Hasan, S., and Haque, S. (2008) Haplotype Inference with Pure Parsimony by SAT solver in a distributed environment. International Journal of Computer Science and Network Security (IJCSNS). Vol 8, No 8: 247-254 (BSc work).

Non-Peer Reviewed/Informal Publications
8. **Chowdhury, M.**, Müller M. and You, J: Four CDCL SAT Solvers based on Exploration and Glue Variable Bumping, Proceedings of SAT Race 2019.

7. **Chowdhury, M.**, Müller M. and You, J: Exploration via Random Walks in CDCL SAT Amid Conflict Depression. CP-2019 (Doctoral Program, informal).

6. **Chowdhury, M.** and You, J. (2014) A System for Embedding Global Constraints into SAT. Proceedings of the International Joint Workshop on Implementation of Constraint and Logic Programming Systems and Logic-based Methods in Programming Environments (CICLOPS): 93-108 (MSc work).

5. **Chowdhury M.**, Mueller M. and You J. Description of expSAT Solvers, Proceedings of SAT Competition 2018: 22-23.

4. **Chowdhury M.**, Mueller M. and You J. GrandTour_obs Puzzle as a SAT Benchmark, Proceedings of SAT Competition 2018: 59-60.

3. **Chowdhury M**. Task and Energy Aware Node Placement in Wirelessly Rechargeable WSNs. CoRR abs/1805.07795 (2018)

2. **Chowdhury M.** and Victor Silva. Evolving Real-Time Heuristics Search Algorithms with Building Blocks. CoRR abs/1805.08256 (2018).

1. **Chowdhury M.**, Mueller M, You J.: Characterization of Glue Variables in CDCL SAT Solving. CoRR abs/1904.11106 (2019)

SCHOLARSHIPS, AWARDS AND GRANTS

Title	Type	Tenure	Amount	Timeline
AAAI Student Scholarship	Academic	University of Alberta	U$250	Feb 2020
Doctoral Program Travel Grant (CP 2019)	Academic	University of Alberta	U$700	Sept 2019
Alberta Innovates GSS (Topup)	Academic	University of Alberta	C$12,000	2018-2020
President's Doctoral Prize of Distinction	Academic	University of Alberta	C$15,800	2018-2020
NSERC PGS Doctoral Scholarship	Academic	University of Alberta	C$42,000	2018-2020
GSA Travel Award	Academic	University of Alberta	C$500	Jan. 2018
AAAI Student Scholarship	Academic	University of Alberta	U$350	Feb 2017
QE II Doctoral Scholarship	Academic	University of Alberta	C$7,500	Sept 2016
AITF R&D Award	Industrial	Technology North Corp.	C$110,000	2012-2014
Swedish Trust Scholarship	Academic	University of Alberta	U$1000	Jan 2010
Entrance Scholarship	Academic	Islamic Univ. of Tech.	U$15,000	2004-2006
High School Scholarship	Academic	Islamic Univ. of Tech.	U$400	2004-2007
Secondary School Scholarship	Academic	JCP School & College	U$150	2001-2003
Junior School Scholarship	Academic	Blue Bird High School	U$50	1999-2001
Primary School Scholarship	Academic	Blue Bird High School	U$25	Jan 1996

HONORS

- **First runner up** in the UNSAT track of SAT Race -2019 by PAR-2 scoring.

- **Second runner up** in the SAT+UNSAT track of SAT Race-2019 by SCR scoring.

WORK EXPERIENCE

University of Alberta September 2016 - Present
Teaching & Research Assistant
Edmonton, Alberta, Canada. *Part-Time*

· As a teaching assistant, I have conducted laboratory exercises, marked assignments, invigilated examinations for the following computing science undergraduate courses: CMPUT-101, CMPUT-174 and CMPUT-325.

· As a research assistant, I have performed initial investigation on the topic of my PhD thesis.

Technology North Corporation October 2011 - August 2016
Software Developer
Edmonton, Alberta, Canada. *Full-Time*

· During my full-time employment at *Technology North (TN) Corporation* as a software developer, I contributed to the development of *TNActiveCare (TNAC)*, a disability management software product. Besides development, I actively contributed to the following applied research projects: 1) Transfer of TNAC from a local server to a cloud computing server, 2) Investigation of possible applications of AI techniques to automate schedule creation and plan selection of TNAC.

University of Alberta September 2009 - June 2011
Teaching & Research Assistant
Edmonton, Alberta, Canada. *Part-Time*

· As a teaching assistant, I have conducted laboratory exercises, marked assignments, invigilated examinations for the following computing science undergraduate courses: CMPUT-101 and CMPUT-325.
· As a research assistant, I pursed research to develop a framework for integrating constraint programming in SAT (MSc thesis work).

Sylhet International University November 2007 - July 2009
Lecturer
Sylhet, Bangladesh. *Full-Time*

· As a lecturer, I taught the following undergraduate courses and their corresponding labs: Operating Systems, Discrete Mathematics, Data Structures and Algorithms. My other responsibilities include: Preparing assignments and examination questions, marking assignments and exam scripts, and exam invigilation.

TECHNICAL SKILLS

Programming Languages
C, C++, C#, JavaScript, Python, MATLAB, Shell Scripting, SQL Programming, LISP, Prolog.
Programming Paradigms
Microsoft Silverlight, Dot NET, MSSQL.
Typesetting Systems
MS Word, LaTeX.

ACADEMIC SERVICES

Program Committee Member

International Joint Conference on Artificial Intelligence (IJCAI-2020)

European Conference on Artificial Intelligence (ECAI-2020)

Subreviewer

SoCS-2018, IJCAI-2017, ASPOCP-2017, AAAI-2017, Canadian AI-2017, ICAPS-2017, ICLP-2016, KR-2016, AAAI-2016, ASPOCP-2015, LPNMR-2015, ICLP-2015, KSEM-2014, ICLP-2013 and Canadian AI-2011.

VOLUNTEER ACTIVITIES

Alumni Ambassador

I was an Alumni Ambassador for the Alumni Association of the University of Alberta . My *volunteering responsibilities* were to help students by providing them food/beverages during the exam time (2013).

Vice President, Culture

I acted as the Vice President, Culture for the Bangladeshi Student Association at UofA (BSAUA), where I *organized* and *managed* the multicultural programs on behalf of the association (2010).

Programming Competition Organization

During my full-time employment at Sylhet International University, I *co-organized* a national (Bangladesh) level programming contest and acted as a *problem setter* and *judge* for the competition (2009).

MISCELLANEOUS

Citizen of Canada.

REFERENCES

Dr. Martin Müller
Professor,
Department of Computing Science,
 University of Alberta,
Edmonton, Alberta, Canada,
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Dr. Jia-Hai You
Professor,
Department of Computing Science,
 University of Alberta,
Edmonton, Alberta, Canada,
Email: you@cs.ualberta.ca.