

Mohimenu Kabir (Mahi)

Email: mokabir@comp.nus.edu.sg or mahibuet045@gmail.com

Personal Website: <https://mahio45.github.io>

Contact: +6581562645

Google Scholar: [See Google Scholar](#)

Research interests

Formal Methods, Logic Programming, Answer Set Programming, Artificial Intelligence,

Education

2020 – Present **National University of Singapore (NUS)** – Singapore
PhD in Computer Science
Advisor: Kuldeep S. Meel *GPA: 4.42 (out of 5.00)*.

2013 – 2017 **Bangladesh University of Engineering and Technology (BUET)** – Bangladesh
BSc in Computer Science
Mentors: M Sohel Rahman *GPA: 3.77 (out of 4.00)*.

Honors and scholarships

- 2023 NUS SoC Research Incentive Award
- 2015 University Merit Scholarship (Bangladesh University of Engineering and Technology)
- 2014 University Merit Scholarship (Bangladesh University of Engineering and Technology)

Publications

- 2024 **Exact Answer Set Counting with Compact Encoding**
Mohimenu Kabir, Supratik Chakraborty and Kuldeep S Meel
Proceedings of the AAAI Conference on Artificial Intelligence 2024 (To appear).
- 2023 **A Fast and Accurate ASP Counting Based Network Reliability Estimator**
Mohimenu Kabir and Kuldeep S Meel
International Conference on Logic for Programming, Artificial Intelligence and Reasoning (LPAR) 2023. (Invited in Model Counting Competition Workshop 2023)

- 2023 **Multi-objective optimization and heuristic based solutions for evacuation modeling**
Mohimenul Kabir, Jaiaid Mobin, Muhammad Ali Nayeem, Muhammad Ahsanul Habib, and M. Sohel Rahman
Transportation Research Interdisciplinary Perspectives.
- 2022 **ApproxASP – a scalable approximate answer set counter**
Mohimenul Kabir, Flavio O Everardo, Ankit K Shukla, Markus Hecher, Johannes Klaus Fichte, and Kuldeep S Meel
Proceedings of the AAAI Conference on Artificial Intelligence 2022. (Invited in ICLP 2022 and Indian SAT-SMT school 2022)
- 2020 **Evaluation of classification and forecasting methods on time series gene expression data**
Nafis Irtiza Tripto, **Mohimenul Kabir**, Md Shamsuzzoha Bayzid, Atif Rahman
PLOS ONE.
- 2020 **ADACT: a tool for analysing (dis) similarity among nucleotide and protein sequences using minimal and relative absent words**
Mujtahid Akon, Muntashir Akon, **Mohimenul Kabir**, M Saifur Rahman, M Sohel Rahman
Bioinformatics.
- 2018 **A simple, fast, filter-based algorithm for circular sequence comparison**
Md Azim, Aashikur Rahman, **Mohimenul Kabir**, M Sohel Rahman
In International Workshop on Algorithms and Computation (WALCOM).

Research experience

- February 2023 – Present **Minimal Model Counting**
Mentor: Kuldeep S Meel
We aim to engineer a minimal model counter. We are brainstorming theories for knowledge compilation of minimal model counting.
- January 2024 – Present **2QBF counting**
Mentor: Kuldeep S Meel
We aim to design knowledge compilation for 2QBF counting.

Teaching experience

- Fall 2023 **Teaching assistant, IT5005: Introduction to Artificial Intelligence (NUS)**
My responsibilities: Lab tutoring, question preparation, assignment preparation, and exam invigilation
- Spring 2021 & Spring 2023 **Teaching assistant, CS4244: Knowledge Representation and Reasoning (NUS)**
My responsibilities: Grading, questions preparation and consultation
- Fall 2021 **Teaching assistant, CS3243: Introduction to Artificial Intelligence (NUS)**
My responsibilities: Grading and questions preparation
- Spring 2022 **Teaching assistant, CS4246/CS5446: AI Planning and Decision Making (NUS)**
My responsibility: Grading
- Fall 2022 **Teaching assistant, CS2040: Data Structures and Algorithms (NUS)**
My responsibilities: Lab tutoring and exam invigilation

Talks and tutorials

- June 2023 A Fast and Accurate ASP Counting Based Network Reliability Estimator
LPAR 2023
- December 2022 ApproxASP – a scalable approximate answer set counter
SAT SMT Winter School 2022
- February 2022 ApproxASP – a scalable approximate answer set counter
AAAI Conference on Artificial Intelligence (AAAI 20 mins presentation)
- March 2018 A simple, fast, filter-based algorithm for circular sequence comparison
International Workshop on Algorithms and Computation (WALCOM 25 mins presentation)

Mentorship and service

- May 2022 – July 2022 **National University of Singapore (Academic Advisor)**
My responsibilities: I mentored two undergraduate students on a research project.
The title of the project: “Approximate Answer Set Sampling”

Technical skills

Programming languages

Proficient in: C, C++, Java, Python, R

Software

LaTeX, Git, VirtualBox

Languages

English (fluent)