

Moumita Choudhury

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EDUCATION

University of Dhaka

2016 - 2020

B.Sc. in Computer Science and Engineering

GPA: 3.84/4.00 Advisor: [Dr. Md. Mosaddek Khan](#)

RESEARCH EXPERIENCE

Cognitive Agents and Interaction Lab (CAIL), University of Dhaka

February 2020 - present

Research Assistant

- Studying security and game theoretic concept to improve security resource allocation problem.
- Mentoring undergraduate students associated with the lab on final year research project.

RESEARCH INTEREST

- Multi-agent Systems (Coordination and Planning, Multi-agent RL).
- AI for Social Impact and Computational Sustainability (Game Theory and RL for social good).
- Interaction Between Human and Robot/AI.

PUBLICATIONS

Preprints

* - equal contribution

1. **A Particle Swarm Inspired Approach for Continuous Distributed Constraint Optimization Problems.**

Moumita Choudhury, Amit Sarker, Md. Mosaddek Khan, and William Yeoh

arXiv:2010.10192 (under review), 2020.

Conference Publications

1. **A Particle Swarm Based Algorithm for Functional Distributed Constraint Optimization Problems.**

Moumita Choudhury, Saaduddin Mahmud, and Md. Mosaddek Khan.

Proceedings of the Thirty-Fourth AAAI Conference on Artificial Intelligence, 2020.

2. **AED: An Anytime Evolutionary DCOP Algorithm.**

Saaduddin Mahmud, Moumita Choudhury, Md. Mosaddek Khan, Long Tran-Thanh, and Nicholas R. Jennings.

Proceedings of the 19th International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS), 2020.

3. **Learning Optimal Temperature Region for Solving Mixed Integer Functional DCOPs.**

Saaduddin Mahmud, Md. Mosaddek Khan, Moumita Choudhury, Long Tran-Thanh, and Nicholas R. Jennings.

Proceedings of the 29th International Joint Conference on Artificial Intelligence (IJCAI), 2020

4. **C-CoCoA: A Continuous Cooperative Approximation Algorithm to Solve Functional DCOPs.**

Amit Sarker, Abdullahil Baki Arif, Moumita Choudhury, and Md. Mosaddek Khan.

Proceedings of the 19th International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS), 2020. (Extended Abstract)

11th International Workshop on Optimization and Learning in Multiagent Systems (OptLearnMAS) @ AAMAS, 2020.

Theses

1. **Applying Population-Based Algorithms to Solve Large (F)DCOPs.**

Moumita Choudhury*, Saaduddin Mahmud*, and Md. Mosaddek Khan.

Undergraduate Thesis, Computer Science and Engineering, University of Dhaka, 2019.

SELECTED AWARDS AND HONORS

- 2019 **1st Runner Up**, Code Samurai 2019 - Hackathon by BJIT
- 2019 Awarded Farida Begum Women Empowerment Scholarship
- 2018 **10th position**, NSU Inter University Girls' Programming Contest
- 2017 **5th position**, National Girls' Programming Contest
- 2013 **Divisional Winner**, Dhaka National Creative Talent Hunt 2013
- 2012 **Second Runner up**, Regional Mathematical Olympiad, Dhaka

ACTIVITIES & SERVICES

Shabab-Murshid Development Foundation

2016-2019

Volunteer Teacher, Coordinator

- Teaching and coordinating the math classes for underprivileged children of grade 6 to 10.
- Working as the coordinator of the annual study tour, cultural program and ensure participation in National Mathematical Olympiad, Bangladesh.

Mentor (Programming Instructor)

January 2019-December 2019

- Worked as the programming instructor of the undergraduate female students of Department of Computer Science, University of Dhaka.

JENESYS 2.0

December 2013

Participant

- Short Term Invitation Program to Japan funded by Japan International Cooperation Center

ACADEMIC PROJECTS

My Food Diary: A Food Habit Tracking App

Feb 2018 - April 2018

- An android app for keeping track of daily food and water consumption and track weight.
- Genetic algorithm based automated food suggestions and goal oriented motivation.

Track Me: Personal Vehicle Tracking and Management

July 2017 - Oct 2017

- An android app for monitoring personal vehicle.
- Clustering based approach to detect anomaly in driving pattern and notify the car owner.

AL.GO: Algorithm Visualizer

Feb 2017 - May 2017

- A java based demo project to visualize well known algorithms.
- Contains step by step visualization, codes, problem links on specific topic to help students learn faster.

CSEDU Book Club: Book Sharing and Review

Feb 2019 - May 2019

- A website ([See project](#)) and an android app ([See project](#)) for book sharing and reviews for the reading club of department of CSE, University of Dhaka.

TECHNICAL SKILLS

Languages Python, C/C++, Java, MySQL, HTML/CSS

Framework Flask

Databases MySQL, MongoDB

Library Pytorch, pandas, NumPy, Matplotlib