

RAHEEB HASSAN

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SUMMARY

An inquisitive, passionate, and tenacious individual with an aptitude for problem-solving. Recently graduated with the 2nd highest CGPA in my class from the University of Dhaka and currently working as an Associate Machine Learning Engineer at Therap Services LLC. Research interests encompass decentralized learning, reinforcement learning, multi-agent systems, game theory, and optimization. Have authored papers under review in Applied Intelligence (Journal) and ICAPS 2024. Also enjoy doing competitive programming and cybersecurity competitions.

EDUCATION

2018 - 2023 **University of Dhaka** *BSc. (Hons)*
Department of Computer Science and Engineering
CGPA: 3.75 (2nd highest in my class)

EXPERIENCE

2/2023 - **Associate Machine Learning Engineer** *Therap Services LLC*
• Worked with **computer vision, face recognition, multi-object tracking, activity recognition**
• Worked with the **NVIDIA Deepstream** platform for low level machine learning computation
• Designed and implemented systems for ML based real time monitoring

2021 - 2023 **Undergraduate Research Student** *Cognitive Agents and Learning Lab (CAIL), University of Dhaka*
• Worked on **Mutli-Agent Reinforcement Learning** and **Safe RL**

2020 - 2021
(Part-Time) **Full Stack Developer** *CranTech LLC (Formerly Quixx Projects)*
• Worked on several frontend projects like **Shoshikkha, Amplify**, etc.
• Worked with **ReactJS** (frontend), **ExpressJS** (backend) and **React Native** (Mobile)

RESEARCH

In Review **DePAInt: A Decentralized Safe Multi-Agent Reinforcement Learning Algorithm considering Peak and Average Constraints** *Applied Intelligence Journal*
Authors: **Raheeb Hassan**, K.M. Shadman Wadith, Md. Mamun or Rashid, Md. Mosaddek Khan
Keywords: *Decentralized Learning, Reinforcement Learning (RL), Mutli Agent RL, Safe RL, Peak Constraint, Average Constraint*
Preprint: <https://arxiv.org/abs/2310.14348>

In Review **A Graph Neural Network-Based QUBO-Formulated Hamiltonian-Inspired Loss Function for Combinatorial Optimization using Reinforcement Learning** *ICAPS 2024*
Author: Redwan Ahmed Rizvee, **Raheeb Hassan**, Md. Mosaddek Khan
Keywords: *Hamiltonian Function, Deep Reinforcement Learning, Graph Neural Network, Monte Carlo Tree Search*
Preprint: <https://arxiv.org/abs/2311.16277>

AWARDS AND ACHIEVEMENTS

Awards **Best Poster Presentation Award**
Undergraduate Project Final Poster Presentation 2021 (Held on Jan 2023)
Department of Computer Science and Engineering, University of Dhaka
Topic: *DePAInt: A Decentralized Safe Multi-Agent Reinforcement Learning Algorithm considering Peak and Average Constraints*

Competitions • Code Samurai: Inter-University Hackathon 2022 (**Champion**)
• SUST Technovent 2023 Capture the Flag (**11th place**)
• International Collegiate Programming Contest Asia Dhaka Regional 2021 (**16th place**)
• MIST Inter University Programming Contest 2019 (**20th place**)
• SUB Inter University Programming Contest 2019 (**28th place**)

Online Judge

- Solved 90+ problems on **LightOJ**
- Expert (rating 1647) on **Codeforces**
- Blue (rating 1744) on **Codechef**

PROJECTS

Python	kamlabot AI-powered helper chatbot for fetching various useful info (like class routine, syllabus, etc.) Uses NLP to parse message intent and fetch data from Firebase Database	https://github.com/hoenchioma/kamlabot
Unity, C#, Python	Trojan Capture The Flag A capture-the-flag game with AI-powered agents who can deceive you Trained agents using multi agent reinforcement learning (MA-POCA)	
Android, Java, C/C++	hotkey A cross-platform solution for controlling your PC from a mobile device	github.com/hoenchioma/hotkey
Python	vlawyer An unofficial vjudge statistics API	github.com/hoenchioma/vlawyer
SFML, OpenGL, C/C++	Depths of CSEDU Top-down horror/adventure RPG	github.com/hoenchioma/Depths-of-CSEDU
ReactJS, NodeJS, Strapi	Corona Factcheck A website for fact-checking Corona-related information	github.com/Viper4717/corona-factcheck-frontend

STANDARDIZED TESTS

GRE	Quantitative Reasoning:	161	TOEFL	Total:	113
	Verbal Reasoning:	162		Reading:	30
	Analytical Writing:	4.0		Listening:	29
				Speaking:	27
				Writing:	27

SKILLS

Languages:	Python, C++, C, Java, Javascript, Typescript, C# (Unity3D), Dart (Flutter)
Data Science:	Pandas, Numpy, Sympy, Matplotlib, Seaborn, Scrapy, Beautiful Soup, Selenium.
Machine Learning:	PyTorch, TorchVision, NVIDIA DeepStream, Scikit-Learn.