

MD ASIFUR RAHMAN

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EDUCATION

Wake Forest University, Winston-Salem, North Carolina, USA Jan 2022 — Dec 2023
Master of Science in Computer Science CGPA: 3.92 out of 4.00
Dissertation: Task Agnostic Safe Reinforcement Learning

Rajshahi University of Engineering & Technology, Rajshahi, Bangladesh Feb 2012 — Oct 2016
Bachelor of Science in Computer Science & Engineering CGPA: 3.74 out of 4.00
Dissertation: An adaptive background modeling based on modified running Gaussian average method

RESEARCH INTEREST

Reinforcement Learning (RL), Safe Reinforcement Learning (Safe-RL), Machine Learning (ML), Deep Learning, Model Stability and Fairness of ML, Explainable Artificial Intelligence (XAI)

RESEARCH EXPERIENCE

Wake Forest University Winston-Salem, North Carolina, USA
Graduate Research Assistant Jan 2022 - Dec 2023
Supervisor: Dr. Sarra Alqahtani

- Contribute in the field of safe reinforcement learning through research and development.
- Investigating ways to improve the interpretation of an agent's behavior for safety verification.

TEACHING EXPERIENCE

Rajshahi University of Engineering & Technology Rajshahi, Bangladesh
Assistant Professor, Department of Computer Science & Engineering May 2021 - Dec 2021

- Instructed 120 students in courses on Software Engineering and Object-Oriented Programming.
- Supervised thesis of 1 undergraduate student.

Rajshahi University of Engineering & Technology Rajshahi, Bangladesh
Lecturer, Department of Computer Science & Engineering July 2017 - April 2021

- Conducted classes on courses such as: C programming language, Analytical Programming, Data Structure.
- Served as a course advisor for a cohort of 60 students, providing guidance and support in academic matters.

Daffodil International University Dhaka, Bangladesh
Lecturer, Department of Software Engineering Jan 2017 - April 2017

- Taught a class of 30 students in C programming language and Software Engineering courses.

INDUSTRY EXPERIENCE

Qorvo Inc. Greensboro, USA
Test Engineering Internship, Automotive Test Development Team May 2022 - August 2022
Manager: Lance Bennett

- Designed and developed the "Test Request and Management System".
- Wrote ultra-wide band pattern conversion library code for Unison operator tool.

HONORS AND AWARDS

Wake Forest University Alumni Travel Grant 2023
Wake Forest University Research Assistantship 2022—2023
Rajshahi University of Engineering & Technology Merit Scholarship 2012—2016
Secondary School Merit Scholarship, Dhaka Board 2010—2011

PUBLICATIONS

- (1) **Md Asifur Rahman**, Tongtong Liu, Sarra Alqahtani, "Adversarial Behavioral Exclusion for Safe Reinforcement Learning", *32nd International Joint Conference on Artificial Intelligence (IJCAI 2023)*
- (2) **Md Asifur Rahman**, Sarra Alqahtani, "Task-Agnostic Safety for Reinforcement Learning", *Proceedings of the 16th*

(3) Tongtong Liu, Joe McCalmon, Thai Le, **Md Asifur Rahman**, Dongwon Lee, Sarra Alqahtani, “A novel policy-graph approach with natural language and counterfactual abstractions for explaining reinforcement learning agents Authors”, *Autonomous Agents and Multi-Agent Systems*(2023)

(4) Tongtong Liu, Joe McCalmon, **Md Asifur Rahman**, Cameron Lischke, Talal Halabi, Sarra Alqahtani “Weaponizing Actions in Multi-Agent Reinforcement Learning: Theoretical and Empirical Study on Security and Robustness”, *International Conference on Principles and Practice of Multi-Agent Systems*(PRIMA 2022)

(5) Bodrunnessa Badhon, Mir Md. Jahangir Kabir, **Md Asifur Rahman**, Shuxiang Xu, “SQ-FMFO: A Novel Scalarized Multi-Objective Q-Learning Approach for Fuzzy Membership Function Optimization”, *International Journal of Fuzzy Systems*(2022)

(6) Cameron Lischke, Tongtong Liu, Joe McCalmon, **Md Asifur Rahman**, Talal Halabi, Sarra Alqahtani “LSTM-Based Anomalous Behavior Detection in Multi-Agent Reinforcement Learning”, *International Conference on Cyber Security and Resilience (CSR)*(2022)

(7) Apu Chandraw Shill, **Md Asifur Rahman**, “Plant Disease Detection Based on YOLOv3 and YOLOv4”, *International Conference on Automation, Control and Mechatronics for Industry 4.0*(ACMI 2021)

(8) **Md Asifur Rahman**, Boshir Ahmed, Md Ali Hossian, Md Nazrul Islam Mondal, “An adaptive background modeling based on modified running Gaussian average method”, *International Conference on Electrical, Computer and Communication Engineering*(2017)

OTHER PROFESSIONAL ACTIVITIES

Program Committee Member, 38th Annual AAAI Conference on Artificial Intelligence 2023

LEADERSHIP EXPERIENCE

- Thesis supervision of Apu Chandraw Shill 2020—2021
- Focal Point of the Department of Computer Science & Engineering, RUET. 2018—2021
- Assistant Director, Mobile Games and Application Development Lab, RUET. 2019—2021
- Treasurer, Dhaka Welfare Association (Community Organization), RUET, Bangladesh. 2020—2021

TECHNICAL SKILLS

Programming Languages:	Python , C++ , Java, PHP, JavaScript
Tech/Tools:	PyTorch, Tensorflow, SciPy, Scikit-learn, Numpy, Pandas, Keras, RLLib, PySyft, Ray Tune, W&B, Open MPI, Regex, Git, Bootstrap, Django, Laravel, API, AWS, cPanel, L ^A T _E X, Matlab, Smartsheet, MS Office Applications, Jira, Figma, Linux shell, Mural, Balsamiq, Qualtrics
Operating Systems:	OSx, Linux, Windows, Ubuntu
Database:	MySQL, MongoDB
Machine Learning/Data Mining:	Regression, Classification, Parallel-SGD, Exploratory Data Analysis, Clustering, Association Rule Mining,
Deep Learning:	Deep Neural Network, Convolutional neural network, Generative Network, Contrastive learning, Federated learning
Reinforcement Learning:	Single and Multi-agent systems, Safe Reinforcement Learning, Multi-armed bandits, Contextual Bandits, Behavior Cloning, Inverse Reinforcement Learning

REFeree

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