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

INDUSTRY EXPERIENCE

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

- Designed and implemented the *Test Request and Management System*. Additionally, organized training sessions to facilitate the seamless adoption of the system by the Qorvo Test Engineering and Product Engineering team. This system is anticipated to yield a 10% productivity enhancement.
- Wrote ultra-wideband pattern conversion library code in C++ for the unison operator tool.
- Contributed to the development of a Python-based code generator.

Rajshahi Water Supply and Sewerage Authority (Rajshahi WASA)   Rajshahi, Bangladesh
Software Consultant   Jan 2021 - Dec 2021

- Provided consultation on client data management and system development, including the integration of online banking APIs, to Rajshahi WASA during the development of an online billing system. The system now serves around 100 thousand clients in Rajshahi.

RESEARCH EXPERIENCE

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

- Conducted an extensive literature review of safe reinforcement learning (Safe-RL) techniques, analyzing their robustness, vulnerability, and explainability.
- Led a National Science Foundation (NSF) funded project on safe-RL, resulting in the development of a new task-agnostic safety learning framework. Published relevant studies in various top-tier publications.
- Implemented proposed algorithms and safe-RL baselines in Python utilizing libraries such as PyTorch, Tensorflow, Keras, RLlib, RayTune, Numpy, Pandas, Matplotlib, W&B and standard RL environments such as MuJoCo, Safety-Gymnasium, Atari, etc.
- Managed and executed projects on Wake Forest University's High-Performance Computing (HPC) Cluster using Docker and virtual environment.
- Mentored undergraduate lab members through weekly in-person meetings, Zoom sessions, email chains, and text-message correspondence, aiding in the improvement of their research skills and understanding of various concepts in reinforcement learning.

TEACHING EXPERIENCE

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

- Taught 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

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

OTHER PROFESSIONAL ACTIVITIES

38th Annual AAAI Conference on Artificial Intelligence   Vancouver, Canada
Program Committee Member   2023
- Reviewed articles submitted to the Safe and Robust AI (SRAI) track.

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

LEADERSHIP EXPERIENCE

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

TECHNICAL PROFICIENCIES AND CONCEPTUAL FAMILIARITY

- Proficient in C, C++, Python, Java, swift and Object-Oriented programming; experienced in Software Development Life Cycle and Agile Software Development .
- Experienced in using frameworks/libraries such as Tensorflow, Keras, Numpy, Pandas, Scikit-learn, Ray Tune, W&B, PySyft, Open MPI, Regex, Django, PHP Laravel, HTML Bootstrap.
- Experienced in using tools like Smartsheet, Jira, Figma, Mural, Balsamiq, Qualtrics, Visual Code, MS Office applications, MATLAB, and Latex.
- Familiar with AWS Amplify, AWS EC2, AWS Lambda, AWS Location Service, and Docker.
- Experienced in website development, Android, and iOS mobile application development.
- Proficient in relational databases such as MySQL and non-relational databases like MongoDB.
- Proficient in Linux system administration and writing/executing Bash scripts for automation.
- Experienced in software version control using GitHub
- Strong written and verbal communication skills.
- Practiced in computer architecture, operating system concepts, API calls, and concurrency.
- Experienced in Machine Learning Operations (MLOps): data pipeline, supervised and unsupervised machine learning techniques and applications, deep neural networks, convolutional neural networks, generative networks, contrastive learning, federated learning, etc.
- Research exposure in reinforcement learning, deep learning, machine learning, clustering algorithms, model stability and fairness, distributed machine learning, explainable AI.