Md Asifur Rahman

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EDUCATION

Wake Forest University (WFU), North Carolina, United States   **Dec 2023 (Expected)**
Master of Science in Computer Science,

Rajshahi University of Engineering & Technology (RUET), Rajshahi, Bangladesh   **Oct 2016**
Bachelor of Science in Computer Science & Engineering, CGPA: 3.74/4.00

SKILLS

Programming Languages:	Python , C++ , Java, PHP, JavaScript, Bash script
Tech/Tools:	PyTorch, Tensorflow, SciPy, Scikit-learn, Numpy, Pandas, Keras, RLlib, Ray Tune, W&B, Open MPI, Regex, Git, Bootstrap, Django, Laravel, API, AWS, cPanel, LaTeX, Matlab, Smartsheet, MS Office Applications, Jira, Figma, 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, Transformer
Reinforcement Learning:	Single and Multi-agent systems, Safe Reinforcement Learning, Multi-armed bandits, Contextual Bandits, Behavior Cloning, Inverse Reinforcement Learning

PROJECTS (PLEASE REFER TO MY GITHUB REPOSITORY FOR OTHER PROJECTS)

⬦ **Test Request Management System & Python Code Generator , Summer Internship, Qorvo**   **May 2023**
  – Developed a smartsheet-based system for managing test requests, offering resource and task management, along with data retrospection for optimizing testing procedures.
  – Collaborated with Qorvo's software development team to create a new Python-based code generator, identified 3 major concerns with the previous Perl-based code generator. Utilized tools such as Regex, Pandas, and Jinja2 for this project.

⬦ **FindingJobs, Software Engineering Project, WFU**   **May 2023**
  – As the product owner of an innovative career development software concept called "FindingJob," managed the product backlog using Agile.

⬦ **Analysis of Communication Avoidance in SGD, Parallel Optimization Project, WFU**   **April 2023**
  – Implemented 4 communication avoidance stochastic gradient descent (SGD) algorithms - Row Major Parallel SGD, Column Major Parallel, Local-SGD, CA-SGD using Open MPI library.

⬦ **Pointwise Model Unstability Approximation, Data Mining Project, WFU**   **Dec 2022**
  – Implemented a RL based approximation model for identifying pointwise instability in machine learning models using SciPy, Scikit-Learn, Pandas, PyTorch, Ray Tune.

⬦ **AdvEx-RL, Research Assistant, WFU**   **Nov 2022**
  – Developed AdvEx-RL, a versatile safety framework for reinforcement learning (RL) compatible with any policy, delivering state-of-the-art safety. This work has been published in IJCAI 2023.
  – Implemented the framework in python using libraries such as Keras, PyTorch, Tensorflow, NumPy, Ray Tune, W&B, RLlib, MuJoCo and Github.

PROFESSIONAL EXPERIENCE

⬦ **Research Assistant, WFU**   **Jan 2022 - Present**
  – Conduct studies for an NSF-funded project contributing to the progress in the development of safe-explainable RL.

⬦ **Test Engineering Intern, Qorvo**   **May 2023 - Aug 2023**
  – Collaborate with Qorvo test engineering teams and software engineering teams on 2 projects.

⬦ **Assistant Professor, Department of CSE, RUET**   **May 2021 - Dec 2021**
  – Mentor over 720 students on courses such as: Software Engineering, Object oriented programming.
  – Supervise 2 thesis and 8 application development projects by the students.

⬦ **Lecturer, Department of CSE, RUET**   **July 2017 - May 2021**
  – Teach courses such as: Computer Fundamentals, Introduction to C programming language, Lab on Data stucture, Lab on C++ & Java.

⬦ **Lecturer, Department of Software Engineering, Daffodil International University**   **Jan 2017 - April 2017**
  – Instruct 60 students in courses such as Software Engineering and Computer Fundamentals.

LEADERSHIP EXPERIENCE

⬦ **Focal Point of Department of CSE, RUET**   **July 2017 - Dec 2021**
  – Communicate and collaborate with industry and educational institutes. Organized 3 workshops in this role.

⬦ **Dhaka Social Welfare Society at RUET, Treasurer**   **July 2017 - Dec 2021**
  – Managed around $2500 USD to fund and organize walfare events such as: distributing warm clothes to people in need, free IT lessons in rural areas, need based fund, student travel fund etc.