Md Asifur Rahman

 asifurrahman1 | in asifur-rahman-33121892 | ⊕ Online portfolio | ✉ asifurrahman1@gmail.com | ☙ Google Scholar
3269 University pkway, Winston-Salem, 27106, NC, USA | ▪ +336.582.3038

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
Bachelor of Science in Computer Science & Engineering   **Oct 2016**

PROFESSIONAL EXPERIENCE

Industry Experience

⬦ **Test Engineering Intern, Qorvo**   **May 2023 - Aug 2023**
- Designed and developed the "Test Request Management System"
  – Collaborated with the Test Engineering and Product Engineering teams to identify pain points, analyze requirements, and assess methods for enhancing test operations management.
  – Implemented the system in Smartsheet and deployed it, providing necessary training. This system has been seamlessly integrated into the Qorvo Test Engineering and Product Engineering teams, with a projected 10% productivity enhancement.
- Development of Python based Code Generator.
  – Conducted interviews with team members to identify the reasons behind their reluctance to utilize the existing PERL-based code generator.
  – Recommended the integration of the following features into the new Code Generator software:
    ∗ Standardizing the 380/580 reports to facilitate automated data retrieval.
    ∗ Implementing code-level safety checks to mitigate the risk of device and tester damage due to high current.
  – Wrote a C++ pattern conversion library that extends Unison operator tools for the Dimondx tester to facilitate testing ultra-wideband DUT. This library plays a key role in generating template code for the code generator, which in turn will produces new test code for the Dimondx tester.

Academic & Research Experience

⬦ **Research Assistant, WFU**   **Jan 2022 - Dec 2021**
  – Conduct studies for an NSF-funded project contributing to the progress in the development of safe-explainable RL.

⬦ **Assistant Professor, Department of CSE, RUET**   **May 2021 - Dec 2021**
  – Mentor over 720 students on courses such as: Software Engineering, Object oriented programming.
  – Supervise 1 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.

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

⬦ **FindingJobs, Software Engineering Project, WFU**   **April 2023**
  – Introduced the concept of 'CareerTree', an innovative career development application and assumed the role of the product owner, overseeing the product backlog using Agile methodologies.

⬦ **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.

⬦ **Analyze Fairness by Finding Implicit Bias in datasets, Data Mining Project, WFU**   **Dec 2022**
  – Utilized the Genderize and Geocoder APIs to analyze implicit bias in the IMDB movie dataset and Scopus dataset.

⬦ **Stock Market Analysis and Prediction, Data Mining Project, WFU**   **Dec 2022**
  – Developed prediction model for stock market using Yfinance API and applied association rule mining to analyze associated stocks.

⬦ **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.

Leadership Experience

◇ Primary Selector and Mentor at the National Hackathon on Frontier Technologies **Feb 2020**
  – Participated in selecting 151 teams to battle in the final round of National Hackathon on Frontier Technologies arranged by ICT division Bangladesh and Tech Mahindra in solving top 10 citizen-centric challenges of Bangladesh.
  – Mentored the teams on application of artificial intelligence to help them finalize their solution.
◇ Assistant Director, Mobile Application and Games Development Lab, RUET **July 2020 - Dec 2021**
  – Supervise lab resources and facilitate workshops and training classes on mobile application and game development.
◇ Treasurer, Dhaka Social Welfare Organization, RUET **Jan 2018 - Dec 2021**
  – Managed around $3500 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.

Skills

Programming Languages:	Python , C++ , Java, PHP, JavaScript, Bash script
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, 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, Contrastive learning, Federated learning
Reinforcement Learning:	Single and Multi-agent systems, Safe Reinforcement Learning, Multi-armed bandits, Contextual Bandits, Behavior Cloning, Inverse Reinforcement Learning