S M Rayeed

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Summary

PhD student in Computer Science at RPI. Focused on leveraging advanced Machine Learning techniques to drive breakthroughs in neuroimaging.

Education

Aug. 2023 – Present	*Doctor of Philosophy in **Computer Science*** Rensselaer Polytechnic Institute, Troy, New York, US Research Domain : *Federated Learning, Neuroimaging, Image Analysis* Advisor : *Dr. Stacy Patterson (Google Scholar, Email)*	Ongoing
Jan. 2017 – Mar. 2021	*Bachelor of Science in **Computer Science and Engineering*** Islamic University of Technology (IUT), Dhaka, Bangladesh Thesis : *Bangla Sign Language (BdSL) Dataset Generation using Depth Information*	CGPA : 3.76 out of 4.00 *Thesis Repository*

Research Experience

Aug. 2023 – Present	***Graduate Teaching Assistant,*** Department of Computer Science School of Science, Rensselaer Polytechnic Institute, Troy, New York, US - GTA Courses : ***CSCI 1100 (Computer Science I)*** - Instructor(s) : *Dr. Uzma Mushtaque (Scholar, Email) and Shianne M. Hulbert (Coursicle, Email)*
Apr. 2021 – Jul. 2023	***Researcher, Systems and Software Lab,*** Dept. of Computer Science and Engineering Islamic University of Technology (IUT), Dhaka, Bangladesh - Lab Coordinator(s) : *Dr. Md. Kamrul Hasan (Email) and Dr. Hasan Mahmud (Email)* - Area of work : *Depth information in Sign Language Recognition* - Conference paper : 01	Journal article : 01	Research grant : 01

Publications

Mar. 2022	Bangla sign digits recognition using depth information. doi: *10.1117/12.2623400*
Oct. 2022	BdSL47 dataset, published on *Harvard Dataverse*. doi: *10.7910/DVN/EPIC3H*
Under Review	BdSL47: A complete open-access depth-based Bangla sign alphabet and digit dataset (*Link*)

Industrial Experience

Jan. 2023 – Present	***Software Quality Assurance Engineer*** - Automation using Playwright, Cypress	Project Management	Nilavo Technologies Ltd Dhaka, Bangladesh
Mar. 2021 – Dec. 2022	***Junior Test Engineer*** - Automation using Cypress	API Testing	Security Testing using BurpSuite	Nilavo Technologies Ltd Dhaka, Bangladesh
Nov. 2019 – Jan. 2020	***Software Quality Assurance Intern*** - Automation using Selenium	Manual Testing	Nilavo Technologies Ltd Dhaka, Bangladesh

Technical Skills

- **Programming Languages :** C, C++, Java, Python
- **ML Tools :** TensorFlow, Keras, PyTorch, Scikit-learn, Seaborn
- **Database Management :** SQL, PL/SQL, PostgreSQL, MySQL
- **Automation Tools :** Cypress, Playwright, Selenium
- **Tracking Tools :** Jira, Trello

- **Web Development :** HTML, CSS, JS, Bootstrap, jQuery, PHP
- **Image Processing :** OpenCV, Pillow, SciPy, PIL, Haar Cascade, Caffe
- **Modeling Languages :** MiniZinc, PDDL
- **Security Testing Tools :** BurpSuite, OWASP ZAP (Zed Attack Proxy)
- **Graphics and Engineering Drawing :** Blender, AutoCAD

Selected Projects

more projects are available on : *github.com/SMRayeed*

Aug. 2020 – Sept. 2020	***Brain Tumor Detection using CNN** (Keras, TensorFlow)* - Deep Learning project for brain tumor detection from MRI images	*Link*
Jul. 2019 – Aug. 2019	***Online Pharmacy Management System** (HTML, CSS, JavaScript)* - Web-development project for online medicine purchase and management	*Link*
Sept. 2020 – Oct. 2020	***Online Result Processing System** (PLSQL)* - Systems to automate the results of all the students in a class	*Link*

Sept. 2019 – Oct. 2019	***Disaster Loss Management*** *(MiniZinc)* - AI project based on optimization problem to minimize natural disaster loss and maximize relief material supply in a post-disaster scenario	*Link*
Jun. 2020 – Jul. 2020	***Comparison among classifiers on Parkinson's diseases dataset*** *(Keras, TensorFlow)* - Machine Learning project to compare classifiers on Parkinson's diseases	*Link*
Feb. 2021 – Mar. 2021	***Website Automation Project*** *(Cypress, JavaScript)* - Automating basic functionalities of an online shopping website	*Link*

Standardized Test Scores

Sept. 2022	***Graduate Record Examination (GRE) : 332 out of 340*** - Verbal : 162/170 | Quant : 170/170 | AWA : 4.0/6.0	Reg. Number : **1203897**
Nov. 2021	***International English Language Testing System (IELTS) : 8.0 out of 9.0*** - Listening : 8.5 | Reading : 8.5 | Writing : 7.5 | Speaking : 7.0	TRF Number : **21BD016026RAYS050A**

Awards and Achievements

Jun. 2022	**UIU (United International University) Research Grant** Institute for Advanced Research (IAR), United International University, Bangladesh - Project Title : Generating Bangla sign alphabet dataset using depth information - Grant Reference : *UIU-IAR-01-2022-SE-37*
Dec. 2009 – Feb. 2014	**Math Olympiads –** (Organizer : Bangladesh Math Olympiad Committee) - Feb. 2014 : 1st Runner-up — Secondary Level, National Event - Dec. 2013 : 1st Runner-up — Secondary Level, Regional Event - Feb. 2010 : 1st Runner-up — Primary Level, National Event - Dec. 2009 : Champion — Primary Level, Regional Event
Mar. 2014	**Divisional Science Olympiad –** (Organizer : Bangladesh Academy of Sciences) - 3rd Position — Secondary Level, Regional Event
Jan. 2014	**National Literature Olympiad –** (Organizer : HSBC Prothom Alo) - 2nd Runners-up — Secondary Level, National Event
2009 – 2020	**Public Examination Scholarships –** (Awarded by : Government of Bangladesh) - 2017-2020 : Higher Secondary Certificate Scholarship — Dhaka Education Board - 2015-2016 : Secondary School Certificate Scholarship — Dhaka Education Board - 2012-2014 : Junior School Certificate Scholarship — Dhaka Education Board - 2009-2011 : Primary School Certificate Scholarship — Dhaka Education Board

Extra-Curricular Activities

Apr. 2019 – Mar. 2021	**Assistant General Secretary (Logistics) –** IUT Computer Society - Organized 10th ICT Fest 2020 | Supervised workshops, seminars, and visits for projects and coursework at IUT
Apr. 2017 – Mar. 2019	**Executive Member –** IUT Computer Society - Organized 9th ICT Fest 2017 | Organized workshops, seminars, and visits for projects and coursework at IUT
Jul. 2014 – Jun. 2016	**General Secretary (Design and Logistics) –** Notre Dame Nature Study Club, Notre Dame College - Initiated and organized events, visits for projects, and competitions at secondary school
Oct. 2015	**Inauguration Speaker** and **Team Lead (Design and Logistics), 6th National Nature Summit** - Organized by : Notre Dame Nature Study Club, Notre Dame College
Jan. 2015	**Organizer (Design and Logistics), Green Inspiration 2015 – 1st International Nature Summit** - Organized by : Notre Dame Nature Study Club, Notre Dame College
Mar. 2014	**Attendee, Math Camp for 55th International Math Olympiad (IMO) 2014,** Cape Town, South Africa - Organized by : Bangladesh Math Olympiad Committee

References

Dr. Md Kamrul Hasan	**Dr. Hasan Mahmud**	**Mr. Sharif Rahman**
Professor, CSE Department	Associate Professor, CSE Department	Chief Software Architect, Biscom
Islamic University of Technology	Islamic University of Technology	Westford, Massachusetts, USA
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