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)

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

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 (<u>Email</u>) and Dr. Hasan Mahmud (<u>Email</u>) - 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 <i>Harvard Dataverse</i> . doi: <u>10.7910/DVN/EPIC3H</u>
Under Review	BdSL47: A complete open-access depth-based Bangla sign alphabet and digit dataset (<i>Link</i>)

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	- Web Development : HTML, CSS, JS, Bootstrap, jQuery, PHP
- ML Tools : TensorFlow, Keras, PyTorch, Scikit-learn, Seaborn	- Image Processing: OpenCV, Pillow, SciPy, PIL, Haar Cascade, Caffe
- Database Management : SQL, PL/SQL, PostgreSQL, MySQL	- Modeling Languages : MiniZinc, PDDL
- Automation Tools : Cypress, Playwright, Selenium	- Security Testing Tools: BurpSuite, OWASP ZAP (Zed Attack Proxy)
- Tracking Tools : Jira, Trello	- 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	<u>Link</u>
Jul. 2019 – Aug. 2019	Online Pharmacy Management System (HTML, CSS, JavaScript) - Web-development project for online medicine purchase and management	<u>Link</u>
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)	<u>Link</u>
	- AI project based on optimization problem to minimize natural disaster loss and maximize relief material supply in a post-disaster scenario	
	maximize rener material supply in a post-disaster scenario	
Jun. 2020 - Jul. 2020	Comparison among classifiers on Parkinson's diseases dataset (Keras, TensorFlow)	<u>Link</u>
	- Machine Learning project to compare classifiers on Parkinson's diseases	
Feb. 2021 – Mar. 2021	Website Automation Project (Cypress, JavaScript)	<u>Link</u>
	- Automating basic functionalities of an online shopping website	

Standardized Test Scores

Sept. 2022	Graduate Record Examination (GRE) : 332 out of 340	Reg. Number :
	- Verbal : 162/170 Quant : 170/170 AWA : 4.0/6.0	1203897
Nov. 2021	International English Language Testing System (IELTS): 8.0 out of 9.0	TRF Number :
	- Listening: 8.5 Reading: 8.5 Writing: 7.5 Speaking: 7.0	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
Email: hasank@iut-dhaka.edu	Email: hasan@iut-dhaka.edu	Email: srahman@biscom.com