

S M Rayeed

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Profile

I am a Computer Science Graduate from Islamic University of Technology, Bangladesh. I have been working at Nilavo Technologies Ltd. as a Junior Test Engineer. Besides, I am affiliated with Systems and Software Lab (SSL) in Islamic University of Technology as a researcher, since my Graduation in March 2021. My research works are based on Sign Language Recognition. I have been working on incorporating depth information into Bangla Sign Language, for better classification accuracy using Neural Networks. Currently I am planning to pursue higher studies in Computer Science and looking for potential research opportunities.

Industrial Experiences

Mar'21 – Present *Junior Test Engineer*
Nilavo Technologies Ltd., Dhaka, Bangladesh

Nov'19 – Jan'20 *Software Quality Assurance Intern*
Nilavo Technologies Ltd., Dhaka, Bangladesh

- Experienced in manual testing and writing optimized test-cases
- Professionally skilled in Automation using Cypress & Protractor
- Got hands-on experience in security testing using BurpSuite
- Proficient in validating production changes and providing bug-reports


Research Experiences

Apr'21 – Present *Researcher, Systems and Software Lab (SSL)*
Islamic University of Technology (IUT), Bangladesh

- Published one conference paper as the first-author and has one journal article under preparation; has been awarded with one research grant as co-researcher in an ongoing project, along with my thesis supervisor

Education

Jan'17 – Mar'21 ***Bachelor of Science in Computer Science and Engineering***
Islamic University of Technology (IUT), Bangladesh
CGPA : **3.76 out of 4.00**
Specialization : Human Computer Interaction (HCI)
Thesis : Bangla Sign Language dataset generation using depth information

- Developed a feature-based depth dataset by detecting hand key-points and extracting 3D (x, y and z) coordinates from these key-points using MediaPipe framework. Performed classification on the proposed dataset, yielding better classification results than the existing datasets of Bangla Sign Language (BdSL) 

Supervisor : Dr. Md. Kamrul Hasan ✉

Publications

[1] **S. M. Rayeed**, Gazi Wasif Akram, Sidratul Tamzida Tuba, Golam Sadman Zilani, Hasan Mahmud, Md. Kamrul Hasan, "Bangla sign digits recognition using depth information," Proc. SPIE 12084, Fourteenth International Conference on Machine Vision (ICMV 2021), 120840P (4 March 2022); doi:[10.1117/12.2623400](https://doi.org/10.1117/12.2623400)

Research Interests

Applied Machine Learning | Deep Learning | Neural Network

Technical Skills

Programming Languages : C, C++, Python
Machine Learning : TensorFlow, Sklearn
Image Processing : OpenCV, Keras
Database : SQL, PLSQL
Web Development : HTML, CSS, Javascript

Automation : Cypress, Selenium Protractor
Security Testing : Burp Suite
Modelling Languages : MiniZinc, PDDL
Graphics and Design : AutoCAD, Blender3D
Game Development : Unreal Engine 4

Selected Projects

Aug'20 – Sep'20	<i>Brain Tumor Detection using CNN</i> (Python, TensorFlow) • Deep Learning project for brain tumor detection from MRI images	Link
Jul'19 – Aug'19	<i>Online Pharmacy Management System</i> (HTML, CSS, JavaScript) • Web-based project for online medicine purchase for users	Link
Sep'19, Oct'20	<i>Online Result Processing System</i> (PLSQL, Python) • Systems to automate the results of all the students in a class	Link
Jul'19	<i>Comparison among classifiers on Parkinson's diseases dataset</i> (ML) • Comparing results of different classifiers on Parkinson's diseases dataset	Link
Sep'19 - Oct'19	<i>Disaster Loss Management</i> (MiniZinc) • Project based on optimization problem that helps rescuing people during natural disaster and providing relief materials in a post-disaster scenario	Link
Mar'21	<i>Website Automation Project</i> (Cypress, JavaScript) • Automating basic functionalities of an online shopping website	Link

Awards and Achievements

Jun'22	<i>UIU (United International University) Research Grant</i> Institute for Advanced Research, United International University, Bangladesh • Title : Generating Bangla Sign Alphabet dataset using depth information • Grant Reference : UIU-IAR-01-2022-SE-37 • Grant Period : 12 Months (June 1, 2022 to May 31, 2023) • Grant Amount : BDT 475,000.00
Mar'14	<i>Participant, International Math Camp</i> , Bangladesh Math Olympiad Committee
Feb'14	<i>1st Runner-up</i> , Secondary Level, National Math Olympiad
Feb'10	<i>1st Runner-up</i> , Primary Level, National Math Olympiad
Dec'13	<i>1st Runner-up</i> , Secondary Level, Regional Math Olympiad
Dec'09	<i>Champion</i> , Primary Level, Regional Math Olympiad

Extra-curricular Activities

Nov'21	<i>Presentation Speaker</i> Fourteenth International Conference on Machine Vision, ICMV 2021
Oct'15	<i>Inauguration Speaker, 6th National Nature Summit</i> Notre Dame Nature Study Club, Notre Dame College, Dhaka, Bangladesh
Oct'17	<i>Organizer (Logistics and Accounts), IUT 9th ICT Fest</i> IUT Computer Society, Islamic University of Technology (IUT), Bangladesh