S M Rayeed

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Profile

I earned a Bachelor of Science degree in Computer Science and Engineering from Islamic University of Technology (IUT) in March 2021. Soon after my graduation, I joined Nilavo Technologies Ltd. as a Junior Test Engineer. I have also been affiliated with Systems and Software Lab in IUT as a part-time researcher, since April 2021. In the lab, my research is on sign language recognition. Currently I am working on incorporating depth information in Bangla sign language, for better classification accuracy using Neural Networks. In terms of my career goal, I would like to pursue higher studies in Computer Science so that I can continue with my passion for research and development (R&D) fields.

Industrial Experiences

Mar'21 – Present   *Junior Test Engineer*
Nilavo Technologies Ltd., Dhaka, Bangladesh
- Test Automation using Cypress
- Security testing using BurpSuite
- Validating production changes and reporting bugs

Nov'19 – Jan'20   *Software Quality Assurance Intern*
Nilavo Technologies Ltd., Dhaka, Bangladesh
- Test Automation using Selenium Protractor
- Manual testing and writing optimized test-cases

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
- Proposed a depth-based open-access Bangla sign language dataset of 47 static one-handed signs of Bangla sign alphabet and sign digits.   *(Link here)*

Supervisor : Dr. Md. Kamrul Hasan ✉   Co-Supervisor : Dr. Hasan Mahmud ✉

Research Interests

Applied Machine Learning | Deep Learning | Neural Network

Research Experiences

Apr'21 – Present   *Researcher, Systems and Software Lab (SSL)*
Islamic University of Technology (IUT), Bangladesh
- Area of work : Depth information in Sign Language Recognition
- Published one conference paper as the first-author
- Submitted one journal article (under review) as the first-author
- Received a grant for an ongoing research with my thesis supervisors

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). doi:10.1117/12.2623400

[2] **S. M. Rayeed**, Sidratul Tamzida Tuba, Hasan Mahmud, Md. Mumtahin Habib Ullah Mazumder, Md. Saddam Hossain Mukta, Md. Kamrul Hasan, "BdSL47: A complete open-access depth-based Bangla sign alphabet and digit dataset" *(Under Review)*

Technical Skills

Programming Languages : C, C++, Python	Modelling Languages : MiniZinc, PDDL
Machine Learning : TensorFlow, Sklearn	Automation : Cypress, Selenium Protractor
Image Processing : OpenCV, Keras	Graphics and Design : AutoCAD, Blender3D
Database : SQL, PLSQL	Game Development : Unreal Engine 4
Web Development : HTML, CSS, Javascript	Security Testing : Burp Suite

Selected Projects

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

Awards and Achievements

Jun'22	*UIU (United International University) Research Grant* 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)
Feb'14	*3rd,* School Level, BAS Divisional Science Olympiad
Feb'14	*1st Runner-up,* Secondary Level, National Math Olympiad
Feb'10	*1st Runner-up,* Primary Level, National Math Olympiad
Dec'09	*Champion,* Primary Level, Regional Math Olympiad
Dec'13	*1st Runner-up,* Secondary Level, Regional Math Olympiad

Extra-curricular Activities

Nov'21	*Presentation Speaker* Fourteenth International Conference on Machine Vision, ICMV 2021
Oct'15	*Inauguration Speaker, 6th National Nature Summit* Notre Dame Nature Study Club, Notre Dame College, Dhaka, Bangladesh
Mar'14	*Participant,* International Math Camp, Bangladesh Math Olympiad Committee

Reference	Available Upon Request