Muhammad Samee Sevas

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EDUCATION

Bangladesh University of Professionals (BUP)

February 2020 - April 2024

B.Sc in Computer Science and Engineering

CGPA: 3.90/4.00

ENGLISH PROFICIENCY

IELTS November 2024

Listening-8.5, Reading-7.5, Writing-6.5, Speaking-6.5

Band Score 7.5

Publications

Refereed Journals:

- 1. Muhammad Samee Sevas, Nusrat Sharmin, Chowdhury Farjana Tur Santona, Saidur Rahaman Sagor. "Advanced ensemble machine-learning and explainable ai with hybridized clustering for solar irradiation prediction in Bangladesh." Theoretical and Applied Climatology (2024), pp.1-31 (Q2, IF = 3.54)
- 2. Shejuti Binte Feroz, Nusrat Sharmin, **Muhammad Samee Sevas**. "An empirical analysis of hyperparameter tuning impact on ensemble machine learning algorithm for earthquake damage prediction." Asian Journal of Civil Engineering (2024), pp.1-27 (Q3, IF = 1.9)
- 3. Chowdhury Farjana Tur Santona, Nusrat Sharmin, **Muhammad Samee Sevas**, Rubaiyet Islam, Saidur Rahman Sagor. "An Empirical Analysis of Explainable Artificial Intelligence Based on Feature Importance in Solar Irradiance Prediction." (Under Review)

Peer-reviewed Conference Publications:

- 1. Muhammad Samee Sevas, Chowdhury Farjana Tur Santona, Nusrat Sharmin. "Ensemble machine-learning model for solar radiation prediction using explainable AI." 2023 14th International Conference on Computing Communication and Networking Technologies (ICCCNT), Delhi, India, 2023, pp. 1-6
- 2. Shejuti Binte Feroz, **Muhammad Samee Sevas**, Nusrat Sharmin, Arindam Chatterjee. "Performance analysis of machine learning and deep learning architecture for earthquake magnitude prediction." 2023 IEEE 9th International Women in Engineering (WIE) Conference on Electrical and Computer Engineering (WIECON-ECE), Thiruvananthapuram, India, 2023, pp. 70-75
- 3. Muhammad Samee Sevas, Chowdhury Farjana Tur Santona, Nusrat Sharmin. "Solar Radiation Forecasting using Deep Learning Techniques: Enlightening Solar Energy Future of Bangladesh." 2024 International Conference on Recent Progresses in Science, Engineering and Technology (ICRPSET)

Professional Experience

Software Engineer

February 2024 - Present

Dhaka, Bangladesh

Samsung Research and Development Institute Bangladesh

- Currently working on the "Health Provider" project
 - o Implement health features, including metrics like stress, sleep, SpO2, heart rate for Galaxy Fit3, and Ring.
 - Develop new features and fix bugs on the "Galaxy Wearable" Android app using Java.
 - o Collaborated with Samsung HQ (South Korea) to develop Samsung's first smart ring, the "Galaxy Ring".
- Contributing to research and innovation-
 - Submitted ML-based ideas for the patent.
 - o Developed PoCs (Proof of Concept) for AI and UWB (Ultra-Wideband)-related solutions.

Instructor

May 2021 - April 2024

Dhaka, Bangladesh

 $MIST\ Computer\ Club$

- Took C, C++, Python, Data Structures & Algorithms programming classes for over 100+ students.
- Problem setter of various programming contests arranged by MCC.
- Organized various programming and technical events.

Intern

Brain Station 23

Dhaka, Bangladesh

- Worked on identifying privacy risks for digital payment apps.
- Mapped the app's privacy policy to GDPR-related keywords and calculated privacy risk scores using CountVectorizer.

TECHNICAL SKILLS

Programming Languages: Python, C/C++, Java, Kotlin, RTOS, Matlab, Assembly (Intel ×86)

Scripting & Modeling: LATEX, HTML, JavaScript, Shell Script, ER Diagram Libraries: Scikit Learn, Keras, Tensorflow, Pandas, PyTorch, NumPy, Matplotlib

Frameworks: Android

Tools: Git, Google Colab, Visual Studio, Eclipse, Netbeans, Codeblocks, Android Studio, Blender, Proteus

Database: MySQL, Oracle, FireBase **OS**: Linux, Windows, Raspbian

Embedded Systems: Arduino Microcontrollers, Raspberry Pi

Programming Experience

• Champion in Independence Day Programming Contest 2023. [ref]

- 27th in ICPC (International Collegiate Programming Contest) Asia West Continent Final Contest 2022 (Bangladesh Rank: 5th). [ref]
- 16th in ICPC Asia Dhaka Regional Contest 2022. [ref]
- 15th in Synapse Year End Contest 2021.
- Champion in Intra MIST Junior Programming Contest (CodeWar-2020) and won the title "MIST Best Junior Programmer-2020".
- Participated in over 20 onsite programming contests and more than 300 online programming contests. [ref]
- Solved over 2,500 problems in different online judges. [ref1], [ref2]

NOTABLE PROJECTS

1. Samsung Galaxy Ring

The Galaxy Ring integrates advanced sensors to monitor key health metrics like heart rate, sleep, stress, SpO2, step count, and exercise.

Technology: RTOS, JAVA, Android.

2. Jononi: An Intelligent Assistive System for Expecting Mothers (Capstone Project)

Jononi reduces expecting mothers' pregnancy problems by calculating BMI, monitoring medical data, providing dietary suggestions, and sending emergency alerts when complications are detected.

Technology: Raspberry Pi, Android, Firebase, Machine Learning. [Code], [Video]

3. MIST CAFE Management System

MIST CAFE Management System automates and optimizes operations for MIST CAFE, including order management, inventory tracking, billing, and customer management.

Technology: Oracle, HTML, CSS, PHP, JavaScript. [Code]

EXTRA-CURRICULAR ACTIVITIES, AWARDS AND HONORS

- Placed in the MIST Dean's List 2020, 2021, 2022. [ref1], [ref2]
- Awarded a University Merit Scholarship for graduating Magna Cum Laude.
- Winner in the basic division of the CAMA Informatics Contest 2023. [ref]
- Presented Extended Abstract in IEEE CS BDC Summer Symposium 2023. Title: AI-based Solar Energy Framework: explainable AI for solar energy generation and GNN for optimal location identification in Bangladesh. [ref]
- Vice President at MIST Drama and Film Society (March 2023 February 2024). [ref]
- Participated in the 12th National Undergraduate Mathematics Olympiad 2021. [ref]
- Volunteered in National Collegiate Programming Competition (NCPC) 2020. [ref]