

Postgraduate Seminar Series

Venue: Graduate Seminar Room

Date & Time: October 18, 2025 at 2:30 PM

Speaker Information

Nazia Hossain (Std No. 0417052093) is a part time M.Sc. student in the department of CSE, BUET. She completed her undergraduate studies from Military Institute of Science and Technology (MIST) in 2016. Her research interest lies in the field(s) of Artificial Intelligence, Machine Learning etc. She is currently doing her postgraduate thesis under the supervision of Dr. A.K.M. Ashikur Rahman. She will be speaking about her ongoing research in this talk.

Financial Performance Analysis On Dhaka Stock Exchange (DSE) By Stock Categorization & Anomalies Detection

The stock market is one of the most dynamic and unpredictable sectors in the global financial industry. Rapid and continuous diversification in the stock market is the major reason for investors' loss out and selling stock at the wrong time. Although it is challenging to predict stock market movements with complete accuracy, the associated risks can be minimized. So, only price prediction is not enough for investors to make investment decisions rather it is very risky in certain situations. Comprehensive research of a company's finances is very important for investors to take investment decisions as company's overall aspect and financial information is crucial in the stock market. In this thesis work, we assist investors in minimizing risks by categorizing stocks and detecting anomalies in stock tradings. By categorization, we will group companies into similar sets called clusters having similar financial performances. Three clustering algorithms are used here i.e. K-means, Gaussian Mixture, and Fuzzy K-means. Performance of different clustering methods is measured by using three validation indexes. Additionally, we implement and evaluate two anomaly detection methods on Dhaka Stock Exchange (DSE) data: a statistical Contextual Anomaly Detection (CAD) approach and a sophisticated hybrid model integrating Z-Score analysis with the Isolation Forest algorithm.