Postgraduate Seminar Series

Venue: Graduate Seminar Room
Date & Time: July 26, 2025 at 3:30 PM

Speaker Information

Md Benzir Ahmed (Std No. 1016054001) is a part time Ph.D. student in the department of CSE, BUET. Alongside his doctoral studies, he serves as a faculty member in the department of CSE at United International University (UIU), Bangladesh. He holds a Master's degree in Computer Science from North Dakota State University, USA. He brings with him nearly a decade of valuable and relevant industry experience. His research focuses on advancing machine learning in healthcare, with a strong emphasis on diabetes management. He is currently pursuing PhD under the guidance of Dr. Mahmuda Naznin, Professor, CSE, BUET. Benzir will be presenting his ongoing research in this session.

After-meal Blood Glucose Level Prediction for Type-2 Diabetic Patients

Type 2 Diabetes, a metabolic disorder disease, is becoming a fast growing health crisis worldwide. It reduces the quality of life, and increases mortality and health care costs unless managed well. After-meal blood glucose level measure is considered as one of the most fundamental and well recognized steps in managing Type 2 diabetes as it guides a user to make better plans of their diet and thus control the diabetes well. In this paper, we propose a data-driven approach to predict the 2 h after meal blood glucose level from the previous discrete blood glucose readings, meal, exercise, medication, & profile information of Type 2 diabetes patients. In this study, we have collected data from five prediabetic and diabetic patients in free living conditions for six months. We have presented comparative experimental study using different popular machine learning models including support vector regression, random forest, and extreme gradient boosting, and two deep layer techniques: multilayer perceptron, and convolutional neural network. We present also the impact of different features in blood glucose level prediction, where we observe that meal has some modest and medication has a good influence on blood glucose level.