

NOTIFICATION No- COE/Ph.D./(Notification)/517/2022

Notification Date- 13/07/2022

Student's Name- ISHLEEN KAUR

Supervisor's Name- Prof. M.N. Doja

Co-Supervisor's Name- Prof. Tanvir Ahmad

Department of Computer Engineering

Topic- Survival Prediction in Cancer Using Effective Data mining Techniques

Keywords- Cancer, Survival Prediction, Data mining, Machine learning, Sequence mining

The thesis is the result of using appropriate data mining and machine learning techniques to real-world cancer datasets for the survival prediction of patients. Survival prediction is essential for the patients as well as the clinicians. Accurate predictions can enable medical practitioners to make more informed decisions for cancer management.

The dataset used was collected from a Delhi based hospital. Modified sequence mining techniques were used to extract the treatment sequences that can improve the survival rate of prostate cancer patients. Further, a novel time range based machine learning approach is proposed that improved the survival prediction. The work can help the medical practitioners in understanding the need to change treatment after a particular amount of time, and how these treatments and time interval between those treatments can have a significant effect on the patient's survival. Finally, there was a need to validate the methodologies and results on other cancer types as well. The proposed methodologies were confirmed on advanced ovarian cancer patients.

Apart from the clinical attributes, our experiments and proposed methodologies provided us with some relevant factors that can help clinicians determine the survival of the patients for any cancer.