PROJECT
Submitted by : Shahina K. K
Topic: Personalized Treatment Recommender System Using DeepSurv
Guide: Dr. Ramani Bai V

About the Project:

Medical practitioners use survival models to explore and understand the relationships between patient's covariates (e.g. clinical and genetic features) and the effectiveness of various treatment options. Standard survival models like the linear Cox proportional hazards model require extensive feature engineering or prior medical knowledge to model treatment interaction at an individual level. While nonlinear survival methods, such as neural networks and survival forests, can inherently model these high-level interaction terms, they have yet to be shown as effective treatment recommender system. DeepSurv is a Cox proportional hazards deep neural network and state-of-the-art survival method .

In the proposed sytem, DeepSurv will be utilized for modeling interactions between a patient's covariates and treatment effectiveness in order to provide personalized treatment recommendations. Given a patient's baseline data including the patient history and treatment options available, the personalised treatment recommender system can choose the treatment option best suited.

PUBLICATIONS

- **Paper :** A deep learning approach for Part-of-Speech tagging in Nepali language (DOI: 10.1109/ICACCI.2018.8554812)
  Conference : ICACCI 2018
  Journal : IEEE
  Status : Presented

- **Paper :** Detectnig DGA using Deep Neural Networks
  Conference : SSCC 2018 (DOI: 10.1007/978-981-13-5826-5_55)
  Journal : Springer
  Status : Presented

- **Paper :** A Sequential Labelling Approach for the Named Entity Recognition in Arabic Language Using Deep Learning Algorithms
  Conference : IConDSC 2019
  Journal : IEEE
  Status : Accepted