

Computational Intelligence based forecasting and Investigating Life Expectancy based on Electronic Health Records

Mohit and Ritu Dagar

Department of Computer Science Engineering

Sat Kabir Institute of Technology & Management, Bahadurgarh, India

mohitbhardwajshal@gmail.com and ritudagarncce@gmail.com

Abstract: *The number of years a man anticipates to live without dying is generally referred to as his life expectancy. Regional variances, economic circumstances, sex differences, mental and physical illnesses, education, birth year, and other demographic aspects [1] are some of the elements that influence life expectancy. At present, we have electronic medical records (EMRs) which are medical records but in digital form. The life expectancy of a country population may be readily predicted with the use of EMR and cutting-edge AI algorithms. In order to estimate life expectancy, we will train a random forest model, an SVM, an XGBoost model, and a linear regression model with its different variations in this work. The original sources of the dataset were United Nations websites and the World Health Organisation (WHO) websites. The best performing model is found by using several parameters like R^2 score, Mean Squared Error (MSE) & Mean Absolute Error (MAE). During this research XGBoost model performs the best among all other Machine Learning models. Ideal forecasting helps us plan Advance Care Planning to increase our life expectancy, and it informs us what kind of therapy is needed in the early stages.*

Keywords: Life expectancy, Machine Learning Algorithm, Linear Regression, XGBoost, Random Forest, LightGBM

