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Tomonobu Senjyu
Parikshit N. Mahalle
Thinagaran Perumal
Amit Joshi *Editors*



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IQAC

Shri Guru Buddhiswami Mahavidyalaya
Purna (Jn) Dist. Parbhani - 431511 (M.S.)



Editors

Tomonobu Senjyu
Department of Electrical and Electronics
Engineering
University of the Ryukyus
Nishihara, Japan

Thinagaran Perumal
Universiti Putra Malaysia
Serdang, Malaysia

Parikshit N. Mahalle
Sinhgad Technical Education Society
SKNCOE
Pune, India

Amit Joshi
Global Knowledge Research Foundation
Ahmedabad, India

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IQAC**

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Purna (Jn) Dist. Parbhani - 431511 (M.S.)**



Effective Use of Naïve Bayes, Decision Tree, and Random Forest Techniques for Analysis of Chronic Kidney Disease



Rajesh S. Walse, Gajanan D. Kurundkar, Santosh D. Khamitkar, Aniket A. Muley, Parag U. Bhalchandra, and Sakharam N. Lokhande

Abstract The researcher is using a classification method for chronic kidney patient analysis of data. Chronic kidney disease data contains 25 attributes and 400 instances. Now, we proposed a best model by applying the decision support system of naïve Bayes, decision tree J48 algorithm, and random forest classifier techniques, and really, this proposed model will be helpful to predict the further CKD as well as not CKD patients on the basis of different parameters. During analysis, the naïve Bayes classifier correctly classifies instances with the 97.50% accuracy, decision tree J48 algorithm finds the correctly classified instances with the 98.33% accuracy, and similarly, random forest is analyzed and giving output with 100% accuracy and 0% of incorrectly classified instances. Therefore, the random forest decision tree classifier algorithm is the best and produces the most accurate and correct results with the 70 percent of the split value (train on a portion of the data and test on the remainder), and the value of ROC area is 1%. The main objective of the research

R. S. Walse (✉) · S. D. Khamitkar · P. U. Bhalchandra · S. N. Lokhande
School of Computational Sciences, Swami Ramanand Teerth Marathwada University, Nanded,
India
e-mail: rajeshwalse@gmail.com

S. D. Khamitkar
e-mail: s.khamitkar@gmail.com

P. U. Bhalchandra
e-mail: srtmun.parag@gmail.com

S. N. Lokhande
e-mail: lokhande_sana@rediffmail.com

G. D. Kurundkar
Department of Computer Science, Shri Guru Buddhi Swami Mahavidyalaya, Purna Dist,
Parbhani, S.R.T.M. University, Nanded, India
e-mail: gajanan.kurundkar@gmail.com

A. A. Muley
School of Mathematical Sciences, Swami Ramanand Teerth Marathwada University, Nanded,
India
e-mail: aniket.muley@gmail.com

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