KSN 2019
Seoul, Korea · May 23 - 26

Abstract Type : Poster
Abstract Submission No. : PO-1414

Utilization of Combine Genetic Algorithm and Fuzzy K-Nearest Neighbor (GAFKNN) as an Early Detection of Kidney Disease

Rifaldy Fajar, Prihantini Jupri
Department of Mathematics and Computational Biology, Yogyakarta State University, Indonesia

Case Study: Chronic kidney disease is one type of non-infectious but deadly disease. According to Basic Health Research, this disease in Indonesia has a value of prevention value of approximately 0.2 percent. But some people are still not aware that they have experienced this disease, and their kidney failure disease has been at the stage of chronic renal failure so that one of the treatment is to do dialysis. Whereas if the person is still in early or stage 2 kidney failure, can still do therapy without dialysis. In addition, some people are still lazy to consult, so it takes a program so that people can know their condition and motivated to do a checkup to the doctor. From these problems requires an early detection that can be done by classification. One method that can classify is Fuzzy KNN, but Fuzzy KNN has a weakness that is determining the value of k and m that yield optimal value. So do the merger with GAs. From the results of the merger, the program can produce a fairly optimal accuracy of 98%, with parameters on the GAs of population 40, generation 15, CR 0.5 and MR 0.8.