

PROJECT OBJECTIVES:

- CKD is associated with a decrease in kidney function related to age and is accelerated in hypertension, diabetes, obesity, and primary kidney disorders.
- CKD is a global health problem with a high morbidity and mortality rate, and it induces other diseases. As there are no obvious symptoms during the early stages of CKD, patients often do not notice the disease, this being the main feature, eventually leading to a complete loss of kidney function.
- Early detection of CKD allows patients to receive timely treatment to improve the progression of this disease. As it has been proposed in the objectives of the work, the aim is to develop an automatic learning model for the prediction in the diagnosis of CKD and to contribute to the reduction of significant complications in the disease such as dialysis processes, kidney transplantation, or reaching death. The main criterion of success for this project, with the help of machine learning, is to identify the behaviors or behavior patterns in the initial stages of CKD to improve the quality of life of patients.
- With the initial data, a description and exploration of these are made, verifying that they can be used or have the minimum information to perform the classification, through the analysis of these data and obtain the patients with an incidence of CKD.
- With the data obtained, a training set is molded. Several tests are carried out that define or determine the most appropriate technique(s) for the classifier and that the results are practical and efficient. With the defined classifier, the predictive models are trained and validated to establish the model with the highest precision for the data, selecting the one that offers the best results. Predictive models often run calculations during ongoing transactions, for example, to assess the risk or opportunity for a particular patient in a way that provides insight into the treatment decision-making.