SOCIAL /BUSINESS IMPACTS:

Early Prediction for Chronic Kidney Disease Detection: A Progressive Approach to Health Management

- Early detection of chronic kidney disease improves quality of patient life.
- The advantage of this system is that, the prediction process is less time consuming.
- It will help the doctors to start the treatments early for the CKD patients and also it will help to diagnose more patients within a less time period.
- Machine learning can detect patterns of specific diseases. It alerts clinicians to any irregularities.
- The early detection of CKD allows patients to receive timely treatment, slowing the disease's progression.
- Due to its rapid recognition performance and accuracy, machine learning models can effectively assist physicians in achieving this goal.
- It helps people to plan ahead while they are still able to make important decisions on their care and support needs and on financial and legal matters.
- It also helps them and their families to receive practical information, advice and guidance as they face new challenges.
- Machine learning is highly recommended to overcome with the mortality to predict it earlier.

- It mainly improves the experience in healthcare services for the most significant number of people.
- ML has a wide range of applications in healthcare, including clinical trials and research.
- It supports researchers by predicting the best candidates for clinical trials, which reduces the possibility of error.
- This can help prevent the need for dialysis or kidney transplantation, which can be costly and life-altering for patients.
- Early prediction can also help reduce the overall burden of CKD on the healthcare system by reducing the number of hospitalizations and emergency room visits.
- Using machine learning algorithms can lead to rapid disease prediction with high accuracy.
- This project helps the people and communities to plan about the cost for diagnosis, treatment, and doctor consultation.
- Early detection of CKD enables patients to receive timely treatment ameliorate the progression of disease.
- Machine learning models can effectively and clinicians achieve this goal due to their fast and accurate recognition performance.

- Evaluating precisely the condition of patients is of great importance as it would greatly help to decide appropriate care, medications or medical interventions needed.
- Which among them have a interrelationship and influence the outcome of the individual.
- we explore the possibilities of creating forecasting model to predict the onset of RRT 3,6 and 12 months from the time of the patient's first diagnosis with CKD using only the comorbidities data from National Health Insurance from Taiwan.
- On the other hand, developed countries, such models could allow the policy-makers better planning and allocation of resource for treatment.
- The study provides a strong basis and variety of approaches for future studies of forecasting models in healthcare.
- Early and accurate detection of stages of CKD is believed to be vital to minimize impacts of patient's health complications such as hypertension, anemia (low blood count), mineral bone disorder, poor nutritional health, acid base abnormalities, and neurological complications with timely intervention through appropriate medications.
- Early detection of CKD is very essential to minimize the economic burden and maximize the effectiveness of the treatments.

- The ability of machine learning algorithm to classify data with high accuracy makes them more crucial in medical diagnosis and a source for future therapy in CKD prognosis.
- All classifiers parameter were adjusted for the best classification performance, and the results from all methods are positive.
- The novelty of the study is that we extracted the best features from the dataset in order to provide the best classification models for diagnosis patients with chronic kidney disease.
- Our study has attempted to analyze the value of features using feature engineering and aim to uncover the most essential features responsible for CKD.
- This study used the chronic kidney disease data set, which comprises age, blood pressure and a total of 25 relevant characteristics that have previously been used to classify patients with CKD. we explore the possibilities of creating forecasting models to predict the onset of RRT 3, 6, and 12 months from the time of the patient's first diagnosis with CKD, using only the comorbidities data from National Health Insurance from Taiwan.