# NARASARAOPETA ENGINEERING COLLEGE (AUTONOMOUS)

## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

## 2024 - 2025

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| **Batch Number** | AB6 |
| **Team Members** | N.Revanth (21471A0541)<br>K.Veera Raghava Reddy(21471A0531)<br>Y.Likhith Prasanna Kumar (21471A0570)<br>K.Mahesh Babu(21471A0533) |
| **Guide** | Shaik Rafi M.Tech |
| **Title** | Chronic Kidney disease Prediction using machine learning and deep learning models |
| **Domain/Technology** | MACHINE LEARNING |
| **Base Paper Link** | https://www.sciencedirect.com/science/article/pii/S2153353923000032 |
| **Dataset Link** | https://www.kaggle.com/datasets/mansoordaku/ckdisease |
| **Software Requirements** | Browser: Any latest browser like Chrome<br>Operating System: Windows 7 Server or later<br>Python (COLAB) |
| **Hardware Requirements** | Processor: Intel® Dual Core 2.0GHz minimum<br>Hard Disk: 1TB minimum<br>RAM: 8GB or more |
| **Abstract** | Chonic kidney disease is a noticeable health condition that can persist throughout an individual's life, resulting from either kidney malignancy or diminished kidney function. In this work, we investigate how several machine learning techniques might provide an early CKD diagnosis. While previous research has extensively explored this area, our aim is to refine our approach by employing predictive modeling techniques. Initially, we considered 25 variables alongside the class property. The data set used in this study underwent extensive processing, including changing the names of colours for clarity, converting identified colours to numbers, treating unique values with letters handling of partitioned values, fixing incorrect val ues, filling null values with mean, and encoding categorical values into mathematical notation. In addition,Principal component analysis (PCA) was also employed to lower dimensionality. Our findings demonstrated that the XG Boost classifier surpassed every other algorithm, with an accuracy of 0.991. |

**Signature of the student(s)** **Signature of the Guide** **Signature of the project coordinator**