Clean The Dataset

Project Title	Early Detection of Chronic Kidney Disease Using Machine Learning
Team Id	PNT2022TMID17480
Date	08/11/2022


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        "from tensorflow import keras\n",
        "from keras.layers import Dense"
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        "print(data)"
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pcc  \\\n",
            "0      0  48.0  80.0  1.020  1.0  0.0     NaN    normal
```

```
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            "1      1   7.0  50.0  1.020  4.0  0.0     NaN    normal
notpresent   \n",
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notpresent   \n",
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present   \n",
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notpresent   \n",
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...   \n",
            "395  395  55.0  80.0  1.020  0.0  0.0  normal    normal
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            "\n",
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ane  \\\n",
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yes   \n",
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yes   \n",
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no   \n",
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no   \n",
```

```
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        "    classification  \n",
        "0              ckd  \n",
        "1              ckd  \n",
        "2              ckd  \n",
        "3              ckd  \n",
        "4              ckd  \n",
        "..             ...  \n",
        "395         notckd  \n",
        "396         notckd  \n",
        "397         notckd  \n",
        "398         notckd  \n",
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        "\n",
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        "---  ------          --------------  -----  \n",
        " 0   id              400 non-null    int64  \n",
        " 1   age             391 non-null    float64\n",
        " 2   bp              388 non-null    float64\n",
        " 3   sg              353 non-null    float64\n",
        " 4   al              354 non-null    float64\n",
        " 5   su              351 non-null    float64\n",
        " 6   rbc             248 non-null    object \n",
        " 7   pc              335 non-null    object \n",
        " 8   pcc             396 non-null    object \n",
        " 9   ba              396 non-null    object \n",
        " 10  bgr             356 non-null    float64\n",
        " 11  bu              381 non-null    float64\n",
        " 12  sc              383 non-null    float64\n",
        " 13  sod             313 non-null    float64\n",
        " 14  pot             312 non-null    float64\n",
        " 15  hemo            348 non-null    float64\n",
        " 16  pcv             330 non-null    object \n",
        " 17  wc              295 non-null    object \n",
        " 18  rc              270 non-null    object \n",
        " 19  htn             398 non-null    object \n",
        " 20  dm              398 non-null    object \n",
        " 21  cad             398 non-null    object \n",
        " 22  appet           399 non-null    object \n",
        " 23  pe              399 non-null    object \n",
        " 24  ane             399 non-null    object \n",
        " 25  classification  400 non-null    object \n",
        "dtypes: float64(11), int64(1), object(14)\n",
        "memory usage: 81.4+ KB\n",
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present   \n",
            "9      9  53.0  90.0  1.020  2.0  0.0  abnormal  abnormal
present   \n",
            "11    11  63.0  70.0  1.010  3.0  0.0  abnormal  abnormal
present   \n",
            "14    14  68.0  80.0  1.010  3.0  2.0    normal  abnormal
present   \n",
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...   \n",
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notpresent   \n",
            "396  396  42.0  70.0  1.025  0.0  0.0    normal    normal
notpresent   \n",
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notpresent   \n",
            "398  398  17.0  60.0  1.025  0.0  0.0    normal    normal
notpresent   \n",
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notpresent   \n",
```

```
            "\n",
            "             ba  ...  pcv     wc   rc  htn   dm  cad appet   pe
ane  \\\n",
            "3    notpresent  ...   32   6700  3.9  yes   no   no  poor  yes
yes   \n",
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yes   \n",
            "11   notpresent  ...   32   4500  3.8  yes  yes   no  poor  yes
no   \n",
            "14      present  ...   16  11000  2.6  yes  yes  yes  poor  yes
no   \n",
            "20   notpresent  ...   24   9200  3.2  yes  yes  yes  poor  yes
yes   \n",
            "..          ...  ...  ...    ...  ...  ...  ...  ...   ...  ...
...   \n",
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no   \n",
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no   \n",
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no   \n",
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no   \n",
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no   \n",
            "\n",
            "    classification  \n",
            "3              ckd  \n",
            "9              ckd  \n",
            "11             ckd  \n",
            "14             ckd  \n",
            "20             ckd  \n",
            "..             ...  \n",
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        "data['ba'] = data['ba'].map({\"present\":1,\"notpresent\":0})\n",
        "data['htn'] = data['htn'].map({\"yes\":1,\"no\":0})\n",
        "data['dm'] = data['dm'].map({\"yes\":1,\"no\":0})\n",
        "data['cad'] = data['cad'].map({\"yes\":1,\"no\":0})\n",
        "data['pe'] = data['pe'].map({\"yes\":1,\"no\":0})\n",
        "data['ane'] = data['ane'].map({\"yes\":1,\"no\":0})\n",
        "data['appet'] = data['appet'].map({\"poor\":1,\"good\":0})\n",
        "data['classification'] =
data['classification'].map({\"ckd\":1,\"notckd\":0})\n",
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pcv     wc   rc  \\\n",
            "3      3  48.0  70.0  1.005  4.0  0.0    0   1    1   0  ...
32   6700  3.9   \n",
            "9      9  53.0  90.0  1.020  2.0  0.0    1   1    1   0  ...
29  12100  3.7   \n",
```

```
           "11    11  63.0  70.0  1.010  3.0  0.0    1   1    1   0  ...
32   4500  3.8   \n",
           "14    14  68.0  80.0  1.010  3.0  2.0    0   1    1   1  ...
16  11000  2.6   \n",
           "20    20  61.0  80.0  1.015  2.0  0.0    1   1    0   0  ...
24   9200  3.2   \n",
           "..   ...   ...   ...    ...  ...  ...  ...  ..  ...  ..  ...
...    ...  ...   \n",
           "395  395  55.0  80.0  1.020  0.0  0.0    0   0    0   0  ...
47   6700  4.9   \n",
           "396  396  42.0  70.0  1.025  0.0  0.0    0   0    0   0  ...
54   7800  6.2   \n",
           "397  397  12.0  80.0  1.020  0.0  0.0    0   0    0   0  ...
49   6600  5.4   \n",
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51   7200  5.9   \n",
           "399  399  58.0  80.0  1.025  0.0  0.0    0   0    0   0  ...
53   6800  6.1   \n",
           "\n",
           "     htn  dm  cad  appet  pe  ane  classification  \n",
           "3      1   0    0      1   1    1               1  \n",
           "9      1   1    0      1   0    1               1  \n",
           "11     1   1    0      1   1    0               1  \n",
           "14     1   1    1      1   1    0               1  \n",
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           "..   ...  ..  ...    ...  ..  ...             ...  \n",
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        "from sklearn.model_selection import train_test_split\n",
        "X_train, X_test, y_train, y_test = train_test_split(X, y, test_size
= 0.30,\n",
        "random_state = 121)#101\n",
        "print(\"X train value\")\n",
        "print(X_train)\n",
        "print(\"Y train value\")\n",
        "print(y_train)"
      ],
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```
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            "[[75.    70.     1.02  ...  0.     0.     0.   ]\n",
            " [57.    60.     1.02  ...  0.     0.     0.   ]\n",
            " [66.    70.     1.025 ...  0.     0.     0.   ]\n",
            " ...\n",
            " [58.    80.     1.02  ...  0.     0.     0.   ]\n",
            " [73.    80.     1.02  ...  0.     0.     0.   ]\n",
            " [46.    60.     1.025 ...  0.     0.     0.   ]]\n",
            "Y train value\n",
            "[0 0 0 0 0 1 0 0 0 1 0 1 1 0 0 1 1 0 1 0 0 1 1 1 0 1 1 0 0 0 0 0
0 0 0 0 0\n",
            " 0 0 0 0 1 0 0 0 0 1 0 0 0 0 1 0 1 0 0 1 1 0 1 0 0 0 0 1 0 1 0 1
0 1 0 0 0\n",
            " 0 1 1 0 1 0 0 0 1 0 0 0 1 0 0 0 0 0 1 0 1 1 0 0 0 1 0 0 1 0 0 0
0 0 1 0]\n"
          ]
        }
      ]
    }
  ]
}
```