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# 01.

# The Problem

The Epidemic of Depression

# Introduction

At a global level, over 300 million people are expected to be diagnosed with clinical depression.

Depression is a severe mental illness that causes a range of symptoms including feeling of emptiness, anxiety and sleep disturbance, as well as general loss of initiative and interest in activities.

# The data we used

- The dataset was taken from kaggle, it was created during an experiment that monitored the activity of patients over several days.

- The activity was measured with the help of an actigraph watch, worn by the subjects.

- You can access the data set at,
  https://www.kaggle.com/arashnic/the-depression-dataset

# How we cleaned the data

1. We standardized the timestamps for each dataset.

2. Combined the time-series into a single dataframe.

3. Removed all zeros at the start.

# 02.

# The Solution

Is it possible to classify depression?

# Our approach

- We used the ROCKET transform model on the time-series and extracted features needed for classification.

- The model creates kernels by convolution and extracts features from the time-series.

- The features are then fed into a Ridge Classifier model that predicts whether the subject is depressed or not.

# Our accuracy and validation

- To validate our results we performed a 5-fold cross validation by varying the number of kernels in the ROCKET.

- We achieved an accuracy of around 76% in predicting whether the subject was depressed or not.

- We also tried other models but got an accuracy of around 60% in the test data.

# 03.

# Impact

The impact our solution has made

# Our impact

- Our solution has the potential to change millions of lives and improve the mental health of the population.

- Most people are unaware that they might have depression. We hope our application would alert them to seek help as early as possible.

- We hope to be able to support the admirable work done by psychiatrists in helping those in need.

# Thank You!

-Team Epoch