

# Epoch's Depression Classifier

By Dhruv, Pratham, Rahul and  
Ashwin



# Table of contents

01

## Introduction

The Problem and Motivation

02

## The Solution

Our Approach and Process

03

## Impact

Our Findings and Further  
Areas of Research

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.

# Please visit our dashboard

- We created a dashboard for offering a better user experience
- Link: <https://dlw-dashboard.herokuapp.com/>

# Thank You!

-Team Epoch