

## Preprocessing of the Data: Data Cleaning

I use R Studio in preprocessing the unstructured data. Packages like “tidyr”, “devtools”, and DSR were installed in R studio for easy cleaning of the dataset. Syntax:

***install.packages(c("tidyr", "devtools"), devtools::install\_github("garrettgman/DSR")***. Read the dataset into R Studio: ***microblog <- read.csv("~/Desktop/mongodb/microblog.csv")***. For every column and row in the dataset, i check for every integer in the column that is not within 0-9 using: ***ind <- grep("[^0-9]", microblog\$*id*)***. Where “***microblog\$*id****”, represents the column i want to search for. I observed in the output that some rows have letters with the integers in \$id.

I used the syntax: ***ind <- grep("[^0-9]", nameofdatabase\$*id*)*** for every column in the dataset to output integers or strings that don't belong to the column and fill in missing values in every integer and strings in the column.

## Installing and loading the rmongodb package

rmongod package have to be installed in R studio to be able to connect to Mongo. To install packages: ***install.packages("rmongodb")***. To load: ***library(rmongodb)***.

## Connecting R studio to MongoDB

I first of all created a connection to the mongoldb installation: ***mongo <- mongo.create()***. To know if its is connected: ***mongo.is.connected(mongo)***. It outputs “***True***”.

## Getting Databases and collections

To know the databases in Mongoldb connection: ***mongo.get.databases(mongo)***. To get the collections in a specific database:

***mongo.get.database.collections(mongo, "coursework")***. Where collection = “tweets”, Database = “coursework”.

