# INTERACTIVE DATA STORYTELING

## ASSIGNMENT 3 – MATH2270

***BY***

**RIYA MINESH AMIN-S3807007**

**Flexdashboard link:**

https://rpubs.com/Riya1702/A3MATH2270

**CODE:**

```
---
title: "Fluctuations of Top 3 Cryptocurrencies since past 5 years"
output:
  flexdashboard::flex_dashboard:
    orientation: columns
    vertical_layout: fill
---

```{r setup, include=FALSE}
library(flexdashboard)
library(readr)
library(dplyr)
library(plotly)
library(tidyverse)



BTC_USD <- read_csv("D:/BTC-USD.csv", col_types = cols(Date = col_date(format = "%m/%d/%Y")))
ETH_USD <- read_csv("D:/ETH-USD.csv", col_types = cols(Date = col_date(format = "%m/%d/%Y")))
USDT_USD <- read_csv("D:/USDT-USD.csv", col_types = cols(Date = col_date(format = "%m/%d/%Y")))
```
```

```
#merging all dataset

all_crypto <- merge(merge(
  BTC_USD,
  ETH_USD, all = TRUE),
  USDT_USD, all = TRUE)


#Traded Volume Plot

p11 <- plot_ly(data = all_crypto) %>%
   add_lines(x = ~Date, y = ~Volume, name =~crypto, color=~crypto) %>%
 layout(title = "", showlegend= list(visible = "Bitcoin"),
        xaxis=list(zeroline = FALSE, title="Year", rangeslider = list(type = "date"),
                   rangeselector = list(
                     buttons = list(
           list(count=1,
                label='RESET',
                step='all'),
           list(count=1,
                label='1 YR',
                step='year',
                stepmode='backward'),
           list(count=6,
                label='6 M',
                step='month',
                stepmode='backward'),
```

```
            list(count=3,
                 label='3 M',
                 step='month',
                 stepmode='backward'),
            list(count=1,
                 label='1 M',
                 step='month',
                 stepmode='backward'))),
        yaxis=list(zeroline = FALSE, title="Volume (in billions)"))



#closing price plots


plot1 <- plot_ly(data = all_crypto) %>% filter(crypto == c("Ethereum","Tether"))%>%
   add_lines(x = ~Date, y = ~Close, name =~crypto, color=~crypto, text = ~paste("Open:", Open, "High:", High, "Low:", Low ))  %>% layout(yaxis = list(title = "Closing price (USD)"))


plot2 <- plot_ly(data = all_crypto) %>% filter(crypto == "Bitcoin")%>%
   add_lines(x = ~Date, y = ~Close,name = "Bitcoin", text = ~paste("Open:", Open, "High:", High, "Low:", Low ))




# subplot with shared x axis
plot12 <- subplot(plot2, plot1, heights = c(0.75,0.25), nrows=2,
            shareX = TRUE, titleY = TRUE)


plot12 <- plot12 %>% layout(title = "",
        xaxis=list(zeroline = FALSE,title="Year",rangeslider = list(type = "date"),
```

```
            rangeselector = list(
              buttons = list(
        list(count=1,
            label='RESET',
            step='all'),
        list(count=1,
            label='1 YR',
            step='year',
            stepmode='backward'),
        list(count=6,
            label='6 M',
            step='month',
            stepmode='backward'),
         list(count=3,
            label='3 M',
            step='month',
            stepmode='backward'),
        list(count=1,
            label='1 M',
            step='month',
            stepmode='backward'))),
      yaxis=list(zeroline = FALSE,title="BTC closing price(USD)"))
```

*Exploratory data analysis is carried out on past 5 year data consisting of a historical prices and volume of top 3 cryptocurrencies by market cap ( “Yahoo is now a part of Verizon Media”, 2020).*

Column {data-width= 450}

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### Traded Volume of the top 3 Cryptocurrencies over 5 years (2015-2020)

*Drag the slider below the plot to have a closer look at the cryptocurrencies performance*

```{r}

p11
```

Column {data-width= 450}

---

### Closing Price over 5 years (2015-2020)

*Drag the slider below the plot to have a closer look at the cryptocurrencies performance*

```{r}
plot12

```

Data Reference:


- *Yahoo is now a part of Verizon Media*. Finance.yahoo.com. (2020). Retrieved 13 June 2020, from https://finance.yahoo.com/cryptocurrencies.


Plot reference:

- *Subplots*. Plotly.com. (2020). Retrieved 14 June 2020, from https://plotly.com/r/subplots/.
- *Candlestick Charts*. Plotly.com. (2020). Retrieved 14 June 2020, from https://plotly.com/r/candlestick-charts/.