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# **Big Data Analytics: A Trading Strategy of NSE Stocks Using Bollinger Bands Analysis**

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Data Management, Analytics and

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examined the profits generated over one trading year. The tick-by-tick stock market data has been sourced from the NSE and was purchased by Amrita School of Business. The tick-by-tick data being typically Big Data was converted to a minute data on a distributed Spark platform prior to the analysis.

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## Appendix

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```
stock<-stock1[1:350,];
```

```
names(stock)[1]<-"stock";</pre>
```

names(stock)[2]<-"date";names(stock)[3]<-"time"

names(stock)[4]<-"price";</pre>

names(stock)[5]<-"qty";</pre>

setwd("C:\\Users\\Desktop\\bb\\work")

source("bollinger.R");

setwd("C:\\Users\\Desktop\\bb\\yearfullsorted")

}

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```
source("bollinger.R");
```

```
setwd("C:\\Users\\Desktop\\bb\\yearfullsorted")
```

}

<u>bollinger.R</u>

library("TTR");

stock[6]=round(SMA(stock[4],n=20,na.rm=TRUE),digits=2)

names(stock)[6]<-"SMA";k=19;p=nrow(stock)-k;</pre>

for (i in 1:p)

 ${r=k+i;}$ 

stock[r,7]=round(sd(stock\$SMA[i:r]),digits=2)};

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if ((stock\$price[i]>stock\$UB[i])&& (stock\$qty[i]>avg\_qty))

{sold<-(stock\$price[i]\*qty\_bought);sold\_amt<-sold\_amt+sold;</pre>

qty\_bought=0;}}

invest\_amt\_bal=(qty\_bought\*max(stock\$price))

tot\_sale=sold\_amt+invest\_amt\_bal; intraday\_profit=tot\_sale-buy\_amt;

profit<-round(intraday\_profit/buy\_amt\*100, digits=2);</pre>

result<-c(qq,tot\_sale,buy\_amt,intraday\_profit,profit,volatility)</pre>

print(result);

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