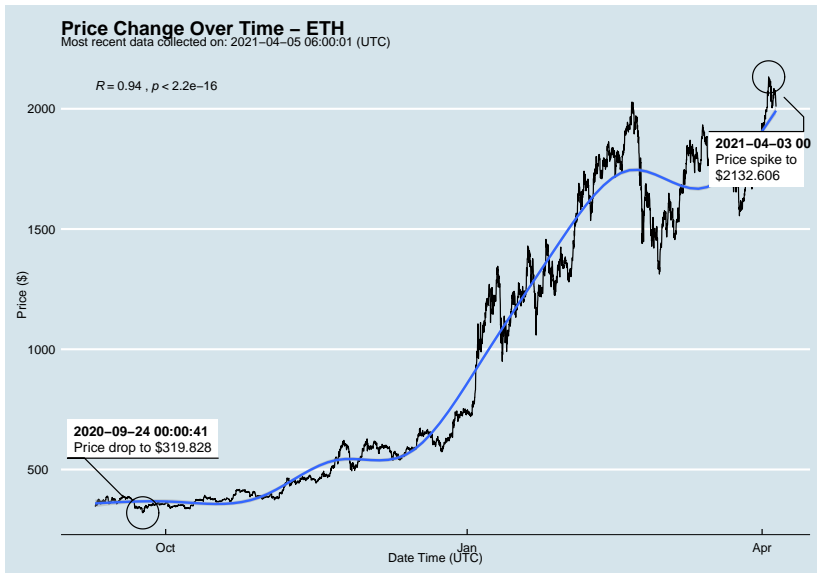# R Markdown Output

Last run on: 2021-04-05 06:13:16

2021-04-05 06:13:16

Overview

This document has code embedded throughout. In the next section we will create a visualization using the already loaded dataset eth_data:

```
datatable(eth_data)
```

Price Chart - Ethereum

Price Change Over Time – ETH
Most recent data collected on: 2021–04–05 06:00:01 (UTC)

$R = 0.94$, $p < 2.2e{-}16$

2020–09–24 00:00:41
Price drop to $319.828

2021–04–03 00
Price spike to
$2132.606

Price ($)

Date Time (UTC)

Oct   Jan   Apr

Python Code Example

```python
import pandas as pd
# Create the Python object from R
df = r.cryptodata
# Show the new Python dataframe
df
```

```
##           pair symbol  ask_1_price        date_time_utc
## 0       ETHUSD    ETH     2008.939  2021-04-05 06:00:01
## 1       BTCUSD    BTC    56909.750  2021-04-05 06:00:00
## 2       BTCUSD    BTC    57288.290  2021-04-05 05:00:01
## 3       ETHUSD    ETH     2022.273  2021-04-05 05:00:01
## 4       ETHUSD    ETH     2028.315  2021-04-05 04:00:01
## ...       ...    ...          ...                  ...
## 10541   BTCUSD    BTC    11972.900  2020-08-10 06:03:50
## 10542   BTCUSD    BTC    11985.890  2020-08-10 05:03:48
## 10543   BTCUSD    BTC    11997.470  2020-08-10 04:32:55
## 10544   BTCUSD    BTC    10686.880                  NaT
## 10545   ETHUSD    ETH      357.844                  NaT
```

One more Python example

The code below creates a new column `price_percentile` that specifies if the price for the row was in the upper or lower 50th percentile of prices (BTC should be upper and ETH lower):

```python
import numpy as np
# Create a new column based on the ask_1_price value:
df['price_percentile'] = np.where(df['ask_1_price'] >
                            np.percentile(df['ask_1_p
                      'upper 50th percentile of price
                      'lower 50th percentile of price
# Show modified dataframe:
df[['symbol', 'ask_1_price', 'price_percentile']]
```

```
##      symbol  ask_1_price                      price_percenti
## 0       ETH     2008.939  lower 50th percentile of pric
## 1       BTC    56909.750  upper 50th percentile of pric
## 2       BTC    57288.290  upper 50th percentile of pric
## 3       ETH     2022.273  lower 50th percentile of pric
## 4       ETH     2028.315  lower 50th percentile of pric
```