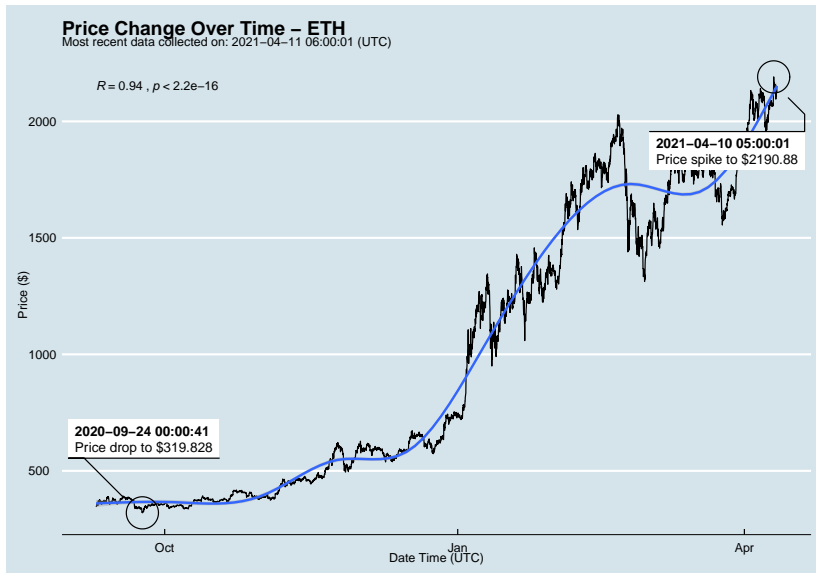# R Markdown Output

Last run on: 2021-04-11 06:15:50

2021-04-11 06:15:50

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: 2021–04–11 06:00:01 (UTC)

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

2021–04–10 05:00:01
Price spike to $2190.88

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

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        BTCUSD    BTC    59684.030  2021-04-11 06:00:01
## 1        ETHUSD    ETH     2122.295  2021-04-11 06:00:01
## 2        ETHUSD    ETH     2129.509  2021-04-11 05:00:01
## 3        BTCUSD    BTC    59901.160  2021-04-11 05:00:00
## 4        BTCUSD    BTC    60261.390  2021-04-11 04:00:01
## ...         ...    ...          ...                  ...
## 10829    BTCUSD    BTC    11972.900  2020-08-10 06:03:50
## 10830    BTCUSD    BTC    11985.890  2020-08-10 05:03:48
## 10831    BTCUSD    BTC    11997.470  2020-08-10 04:32:55
## 10832    BTCUSD    BTC    10686.880                  NaT
## 10833    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        BTC    59684.030   upper 50th percentile of pric
## 1        ETH     2122.295   lower 50th percentile of pric
## 2        ETH     2129.509   lower 50th percentile of pric
## 3        BTC    59901.160   upper 50th percentile of pric
## 4        BTC    60261.390   upper 50th percentile of pric
```