CPSC 441 A3 Network Analysis Report

The traffic in the trace was computed using a python script. The python script iterates through the JSON file that was generated on the Google Cloud VM. To capture the the traffic the following command was run on the terminal/cmd

```
sudo tshark -T json -e frame.time_relative -e frame.len -e ip.src -e ip.dst -e tcp.dstport -e tcp.srcport -e udp.dstport -e udp.srcport -e ip.proto > results.json
```

After this command was run, the command **ctrl z** followed by **bg** was run in order to put the capture in the background. Following this, the files were then downloaded using the following commands

```
wget http://distribution.bbb3d.renderfarming.net/video/mp4/bbb_sunflower_1080p_30fps_normal.mp4
```

```
wget https://gratisography.com/wp-content/uploads/2020/07/gratisography-bike-delivery.jpg
```

```
wget https://file-examples-com.github.io/uploads/2017/11/file_example_MP3_5MG.mp3
```

The average packet size across all traffic in the trace was 5561.607 bytes. This was computed by diving the sum of the total number of packets sent and received.

The average throughput of received traffic was 13439430 bits per second (bps). This was computed by adding all the packets received by the VM (host) and dividing it by the span of the trace. The output was captured and organized based on the sender and receiver packets. The values of the receivers packets were summed and the time in which the first and last packet sent, were subtracted. Diving the two numbers resulted in the throughput received traffic.

Traffic by which TCP/UDP port numbers are used

Sender Traffic Volume

Top Three Source Port Numbers	Percentage of Traffic Contributed (bytes)
80	93.67
40648	0.55
443	5.73

Receiver Traffic Volume

Top Three Source Port Numbers	Percentage of Traffic Contributed (bytes)
40648	0.51
80	93.4
45640	0.0075