

September 28: Established Github

September 29: Discussed ideas and strategies for the project

October 17: Created the Run.pdf, Milestone.pdf, Contribution.pdf, and Method.pdf, and committed them on Github.

- Establish List of Websites for the IP Addresses

October 22: Traceroute function completed

October 23: Traceroute function committed to Github

- Traceroute.py updated
- Test\_traceroute function added.
- Added json file

October 24: Created file for IP Address collection

- Fixed iterator
- Merged branches
- Added Multithreading
- Deleted Traceroute.py
- MongoDB was added to traceroute
- Branches were merged together

October 25: Created README.md

- Added new and improved traceroute that writes to JSON
- fixed branch

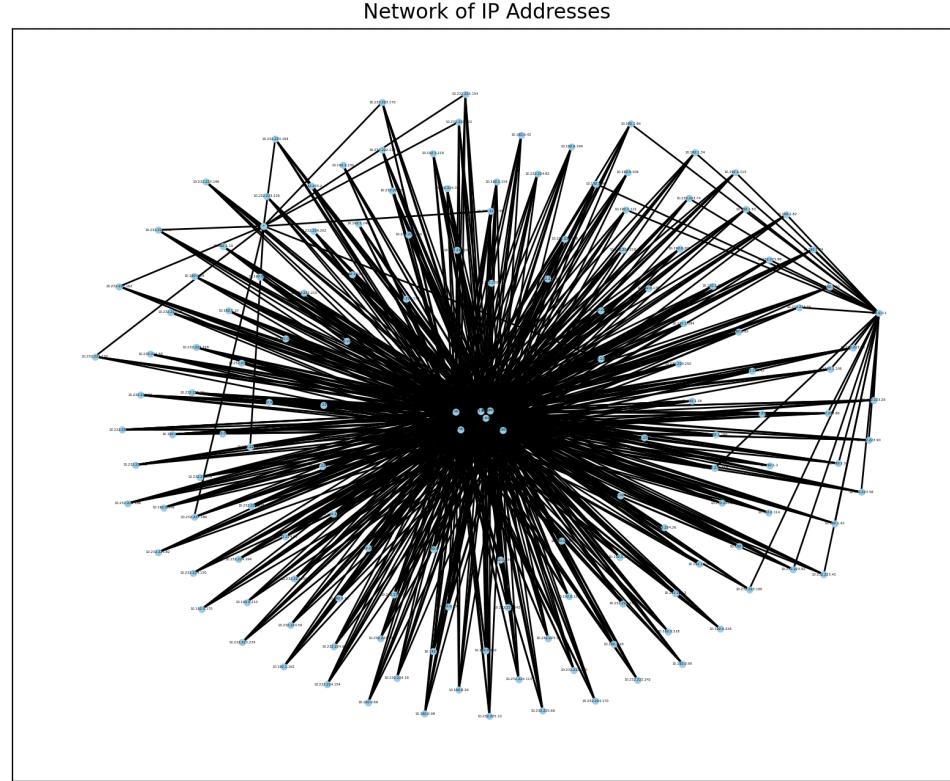
# Miles Adedjouma(@02978459

The screenshot shows a code editor interface with the following details:

- EXPLORER:** Shows files in the project folder:
  - COMPUTER\_NETWORKS\_PROJECT1-2
  - \_\_pycache\_\_
  - Codelist.pdf
  - Contribution.pdf
  - Method.pdf
  - Miles\_IPCollect.json
  - miles\_traceroute.py
  - Milestones.pdf
  - pymongo\_get\_database.py
  - README.md
  - Run.pdf
- Code Editor:** Miles\_traceroute.py content:

```
135     collection_name.insert_many(TEMPLATEDJSON)
136
137     def writeToJSON(object):
138         with open("Miles_IPCollect.json", "a") as line:
139             json.dump(object, line, indent=4)
140
141     def addHopData(ttl, ip):
142         hop_data = {
143             "hop": ttl,
144             "ip": ip
145         }
146
147         return hop_data
148
149     outer_iterator("10.192.0.2", "10.255.255.249") # TODO: change this to your IP range split
150     :writeJSON()
151     :print(TEMPLATEDJSON)
152     :pushToMongoDB() # this pushes to mongoDB
153
154
155
```
- Terminal:** Shows the output of the script execution:

```
10.192.25.114 (10.192.25.114 Traceroute completed.
Tracerouting... 10.192.25.170 (10.192.25.170)
10.192.25.170 (10.192.25.170 Traceroute completed.
Tracerouting... 10.192.25.178 (10.192.25.178)
10.192.25.98 (10.192.25.98 Traceroute completed.
Tracerouting... 10.192.25.186 (10.192.25.186)
10.192.25.106 (10.192.25.106 Traceroute completed.
Tracerouting... 10.192.25.194 (10.192.25.194)
10.192.25.82 (10.192.25.82 Traceroute completed.
Tracerouting... 10.192.25.201 (10.192.25.201)
10.192.25.74 (10.192.25.74 Traceroute completed.
Tracerouting... 10.192.25.210 (10.192.25.210)
10.192.25.66 (10.192.25.66 Traceroute completed.
Tracerouting... 10.192.25.218 (10.192.25.218)
```
- Bottom Status Bar:** Includes file name (main\*), line count (Ln 125), column count (Col 30), spaces (Spaces: 4), encoding (UTF-8), line ending (LF), Python version (Python 3.9.6 64-bit), and a refresh icon.



Darnell Love @03042537

## Traceroute Process:

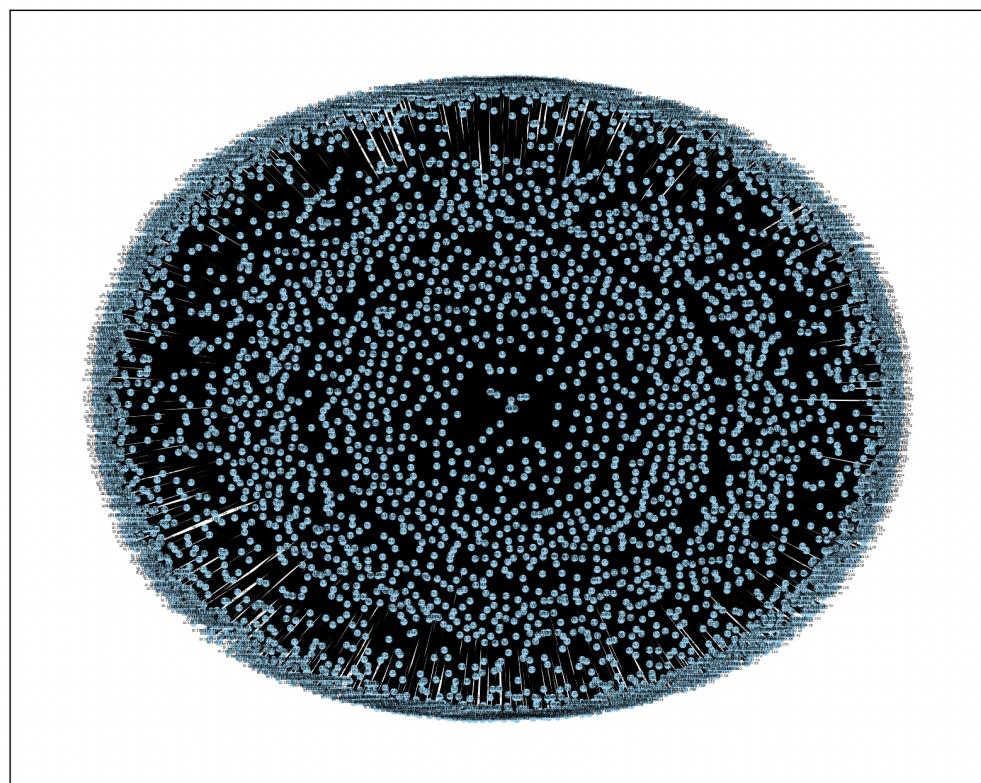
The screenshot shows a terminal window with several tabs open, each containing a different Python script. The tabs include 'Get Started', 'traceroute.py', 'Graph.py 2', 'DarnellIPCollect.json', and 'pymongo\_get\_database.py 2'. The 'traceroute.py' tab is currently active, displaying the following code:

```
11.2 start_ip = ipAddressIPv4Address(start)
11.3 end_ip = ipAddressIPv4Address(end)
11.4 while start_ip <= end_ip:
11.5     IPLIST.append(start_ip)
11.6     start_ip += 2
11.7 traceroute_with_threads(IPLIST)
11.8 writeToJSON(TEMPLATIZEDJSON)
```

The 'Graph.py 2' tab contains a large JSON object representing a network graph, listing various nodes and their connections. The 'DarnellIPCollect.json' and 'pymongo\_get\_database.py 2' tabs also contain JSON data, likely related to network collection and database management.

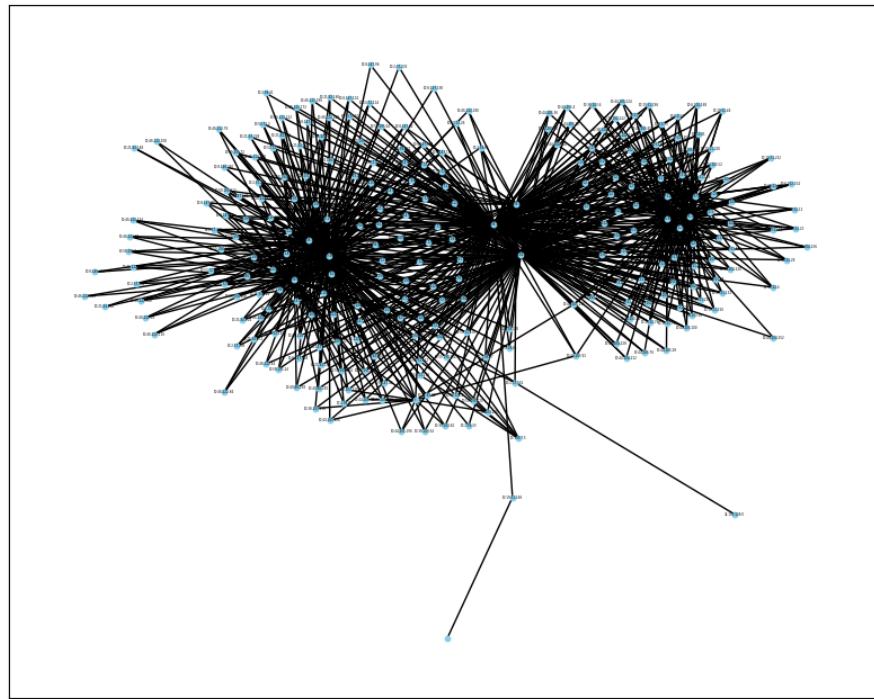
Below the tabs, the terminal shows the execution of the 'traceroute.py' script, with numerous lines of output indicating the progress of the traceroute process across 10.0.0.65 to 10.0.0.93. The output includes timestamps and status messages such as 'Tracerouting... 10.0.0.168 Traceroute completed.' and 'Tracerouting... 10.0.0.192 Traceroute completed.'

Network of IP Addresses



Myles Block @03040146

## Network of IP Addresses



## University Topology:

