

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:

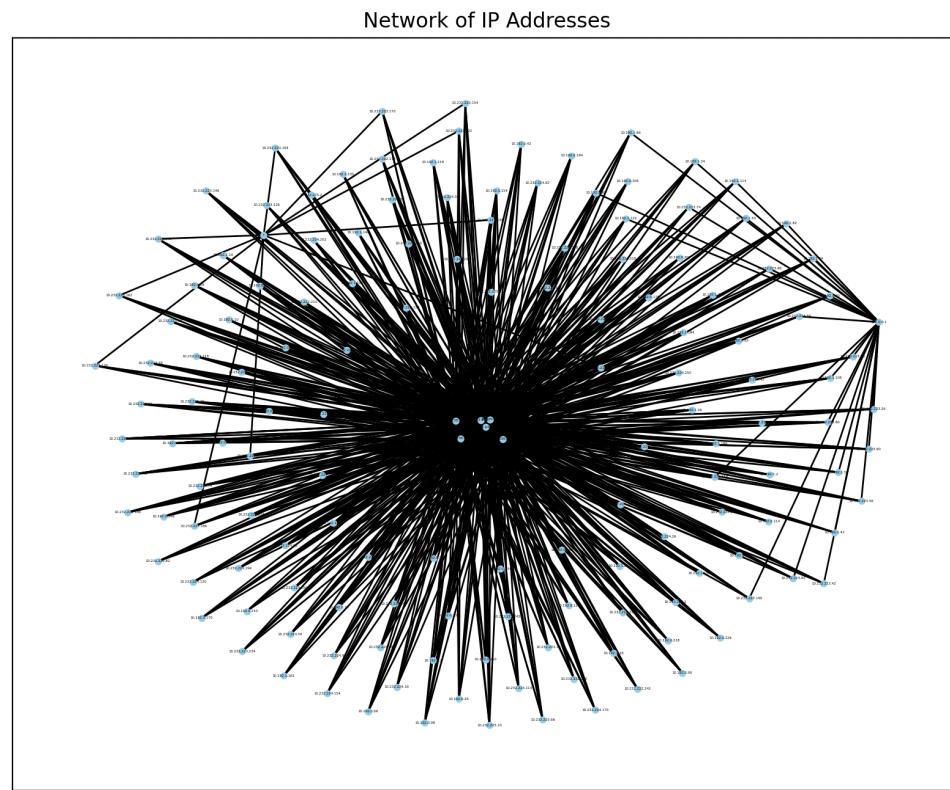
- EXPLORER:** Shows files in the project folder: COMPUTER_NETWORKS_PROJECT1-2, __pycache__, Codelist.pdf, Contribution.pdf, Method.pdf, Miles_IPCollect.json, miles_traceroute.py, Milestones.pdf, pymongo_get_database.py, README.md, and Run.pdf.
- miles_traceroute.py:** A Python script with the following code snippet:

```
135     def writeToJSON(object):
136         collection_name.insert_many(TEMPLATEDJSON)
137
138     if __name__ == "__main__":
139         with open("Miles_IPCollect.json", "a") as line:
140             json.dump(object, line, indent=4)
141
142     def addHopData(ttl, ip):
143         hop_data = {
144             "hop": ttl,
145             "ip": ip
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:** Displays 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)
10.192.25.98 (10.192.25.98 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)
```

- STATUS BAR:** Shows the current file (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 zoom level (Zoom 100%).



Darnell Love @03042537

Traceroute Process:

The screenshot shows a Jupyter Notebook interface with the following details:

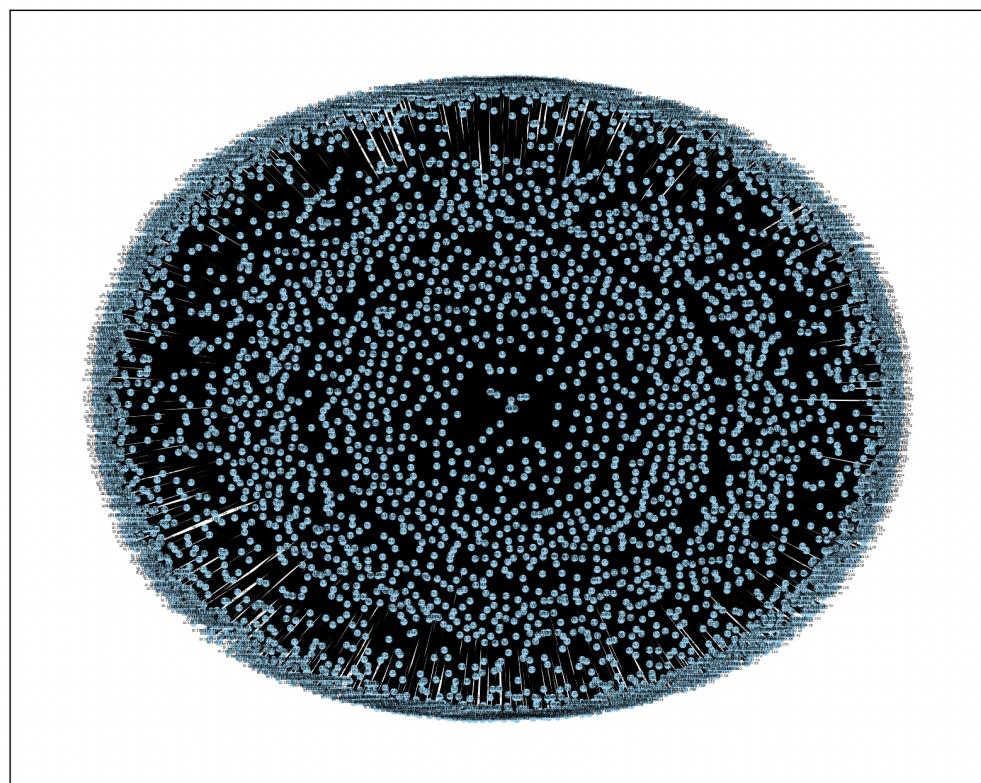
- EXPLORER**: Shows open files: `Get Started`, `traceroute.py`, `Graph.py`, `DarnellIPCollect.json`, and `pymongo_get_database.py`.
- OPEN EDITORS**: Shows code cells for `Get Started`, `traceroute.py`, `Graph.py`, `DarnellIPCollect.json`, `pymongo_get_database.py`, and `traceroute.py`.
- PYTHON**: Shows a list of kernel configurations.
- CELLS**: Shows a list of cells: `Get Started`, `traceroute.py`, `Graph.py`, `DarnellIPCollect.json`, `pymongo_get_database.py`, and `traceroute.py`.
- NETW...**: Shows network-related configurations.
- _pycache_**: Shows cached files.
- DarnellIPCollect.json**: The active code cell contains JSON data representing a network path from source to destination. It includes fields like 'hop', 'ip', and 'location' for each node in the path.
- PROBLEMS**: Shows 4 errors.
- OUTPUT**: Shows the output of the code execution.
- DEBUG CONSOLE**: Shows the debug console.
- TERMINAL**: Shows a terminal window with multiple tabs labeled `zsh` and `Python ...`.

The screenshot shows a code editor interface with multiple tabs open. The tabs include 'EXPLORER', 'OPEN EDITORS' (containing 'traceroute.py', 'Graph.py', 'DarnellIPCollect.json', and 'pymongo...'), '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 Python code:

```
112     start_ip = ipAddress.IPv4Address(start)
113     end_ip = ipAddress.IPv4Address(end)
114
115     while start_ip <= end_ip:
116         IPLIST.append(start_ip)
117         start_ip += 8
118
119     traceroute_with_threads(IPLIST)
120
121     writeToJSON(TEMPLATEDJSON)
```

Below the code editor is a terminal window showing the output of a 'traceroute' command. The output lists numerous IP addresses along a network path, each followed by its name and the time taken for the traceroute to reach that point. The log starts with 'Tracerouting...' and ends with 'Tracerouting... 10.0.1.25 (10.0.1.25)'. The terminal also shows several 'zsh' and 'sudo' processes running in the background.

Network of IP Addresses



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Network of IP Addresses

