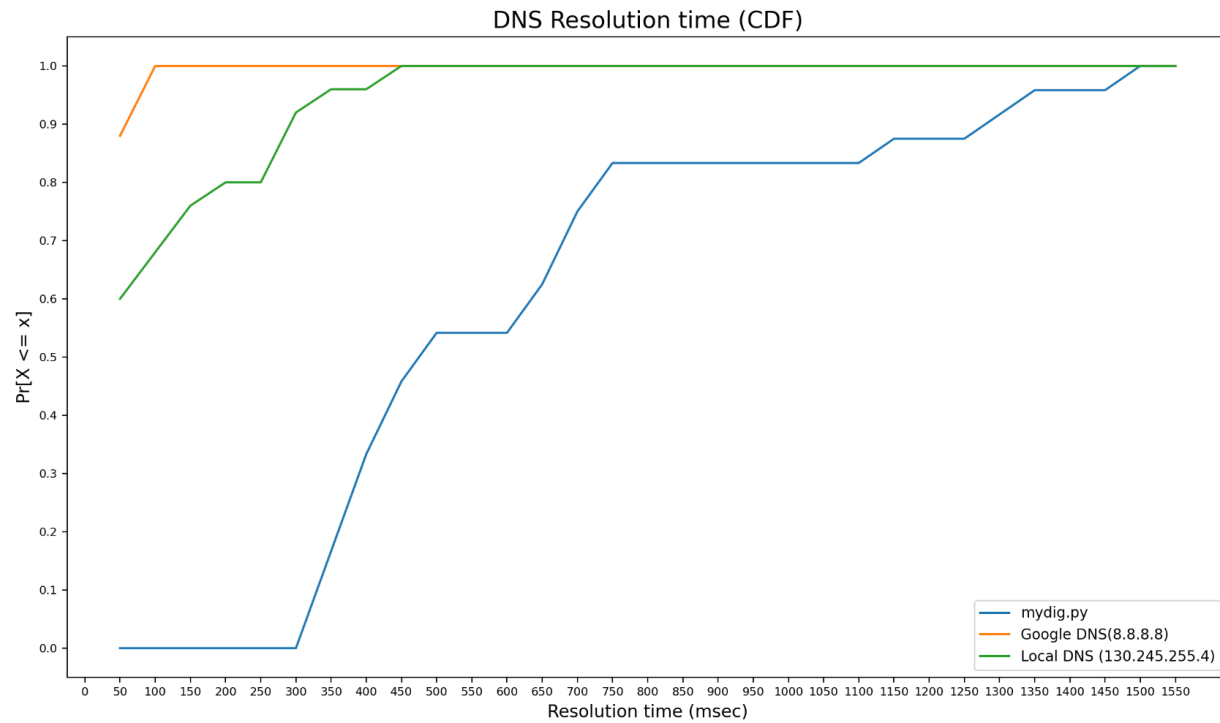


DNS Resolution Performance:



(All resolution times in milliseconds)

Website	mydig.py	Google DNS (8.8.8.8)	Local DNS (darkside.resnet.stonybrook.edu.) (130.245.255.4)
google.com	361	9	11
youtube.com	370	14	8
tmall.com	470	11	123
baidu.com	616	14	30
qq.com	656	42	152
sohu.com	725	60	287
facebook.com	396	18	9
taobao.com	428	35	72
360.cn	1782	30	71
jd.com	678	45	339
amazon.com	668	13	10
yahoo.com	338	17	11
wikipedia.org	442	18	10
weibo.com	649	40	276
sina.com.cn	1147	41	285
zoom.us	739	33	8
xinhuanet.com	1461	66	428
live.com	362	21	8
netflix.com	460	20	12
reddit.com	432	20	10
instagram.com	304	19	8
microsoft.com	320	72	7
office.com	318	14	9
google.com.hk	1302	18	133
panda.tv	1299	25	36

The above graph plots the CDF for the DNS resolution times for the top 25 websites from the list mentioned [here](#)

Observations:

It can be clearly observed that the local DNS and Google DNS servers resolve the query significantly faster than my own DNS resolver. This difference can be attributed to the caching mechanisms used in these resolvers, which is useful given the high number of requests that these resolvers process.

The general trend that can be seen from the above numbers is that, the **.com** domains have significantly better resolution times on an average - with a few exceptions like xinhuanet.com. Possible reasons for this could be a high average RTT given xinhuanet is a completely chinese website. It could have most if not all servers in Asia (China). Whereas most of the other websites have a wide distribution of servers all over the world.

Considerably low times can be observed for websites like “google.com”, “youtube.com” and “facebook.com” compared to other websites like “xinhuanet.com” and “jd.com” possibly because of the popularity of these websites among the college students resulting in responses being cached. Additionally, we can clearly see the caching work on the local DNS servers as most popular websites have resolution times less than 15 msec and rest have way higher times (greater than 200 msec). This data clearly shows the websites not so popular around the university and the ones that are much more frequently accessed.

Google DNS being a public and widely used DNS recursive name server unsurprisingly has most if not all of the top 25 websites cached resulting in very low resolution times. The speeds can also be attributed to the resolving technique used - which is recursive. On the flipside, my DNS resolver implements an iterative technique.