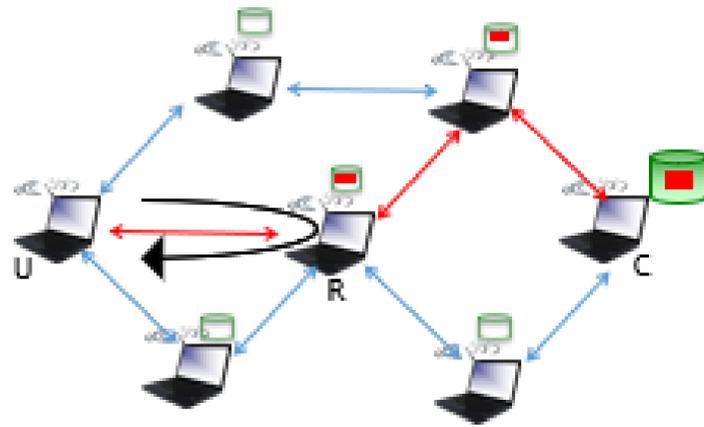




## Information-Centric Networks

- Information-centric networks (ICN) is a future Internet architecture that rearchitects the current host-centric Internet to a content-centric one.
- In-network caching allows the content requests to be served from the intermediate nodes rather than the origin servers, thus reducing the content access time and the load on servers.
- Our goal is to identify which caching policies performs best in different ICN settings.



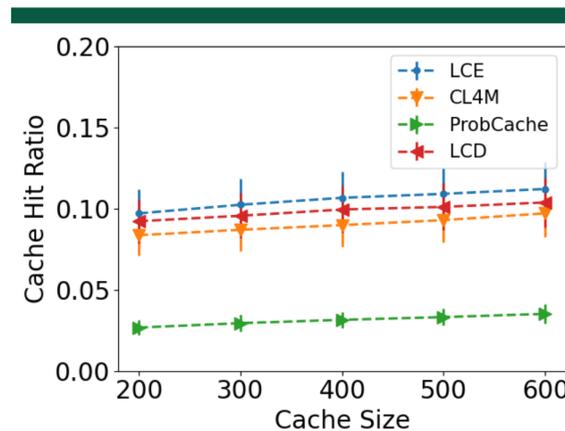
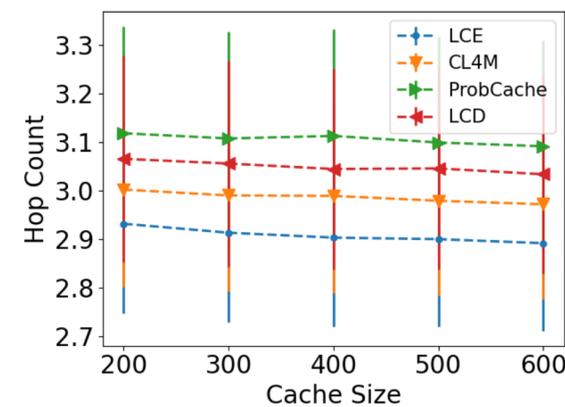
## Caching Strategies

- LCE - stores a copy of the content at every visited cache.
- LCD - stores a copy of the content at a cache one hop down towards the requester in each cache hit.
- CL4M - stores a copy of the content in the caches with the maximum betweenness centrality to generate the highest probability of a cache hit.
- ProbCache - uses a probabilistic method to cache content.

## Experimental Setup

- Icarus is a Python-based discrete-event simulator for evaluating the performance of Information Centric Networks (ICN).
- Static Networks: wide, geant, and garr.
- Grid Mobility Model: 7 X 7 grid with 49 nodes.
- Random Waypoint Mobility Model: 60 nodes uniformly distributed in 1000 X 1000 area simulation.
- Stockholm Pedestrian Trace: 300,000 location entries of 587 pedestrians in an area of 5872 sq. m.
- Rome Taxi Cab Trace: 300,000 location entries comprising of 162 taxis.
- Seattle Bus Trace: 300,000 location entries comprising of 1078 buses.

## Prediction Results



- This graph represents the hop count of cache eviction policy LRU (Least-Recently Used) for topology Pedestrian.
  - The best performing strategy is LCE (Leave Copy Everywhere) with the lowest hop count.
  - LCE brings in more content within the network leading to more hits closer to the user, resulting in lower hop count.
- This graph represent the cache hit ratio of cache eviction policy LRU (Least-Recently Used) for topology Pedestrian.
  - Best performing strategy is LCE (Leave Copy Everywhere) with the highest cache hit ratio.
  - For most of the other networks and cache eviction policies there were similar results of LCE performing the best out of the other cache insertion policies.