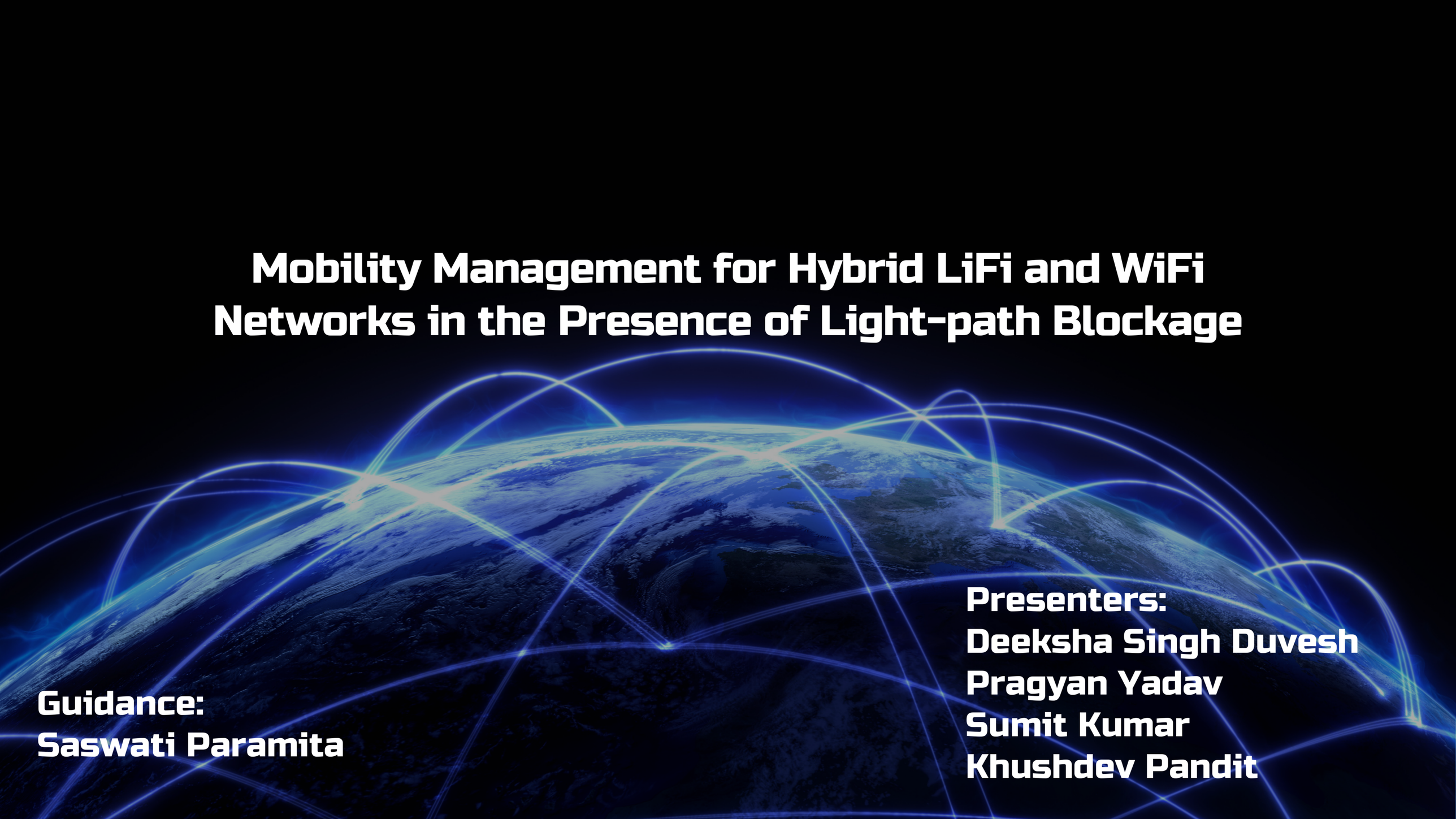
Mobility Management for Hybrid LiFi and WiFi Networks in the Presence of Light-path Blockage



Guidance:
Saswati Paramita

Presenters:
Deeksha Singh Duvesh
Pragyan Yadav
Sumit Kumar
Khushdev Pandit

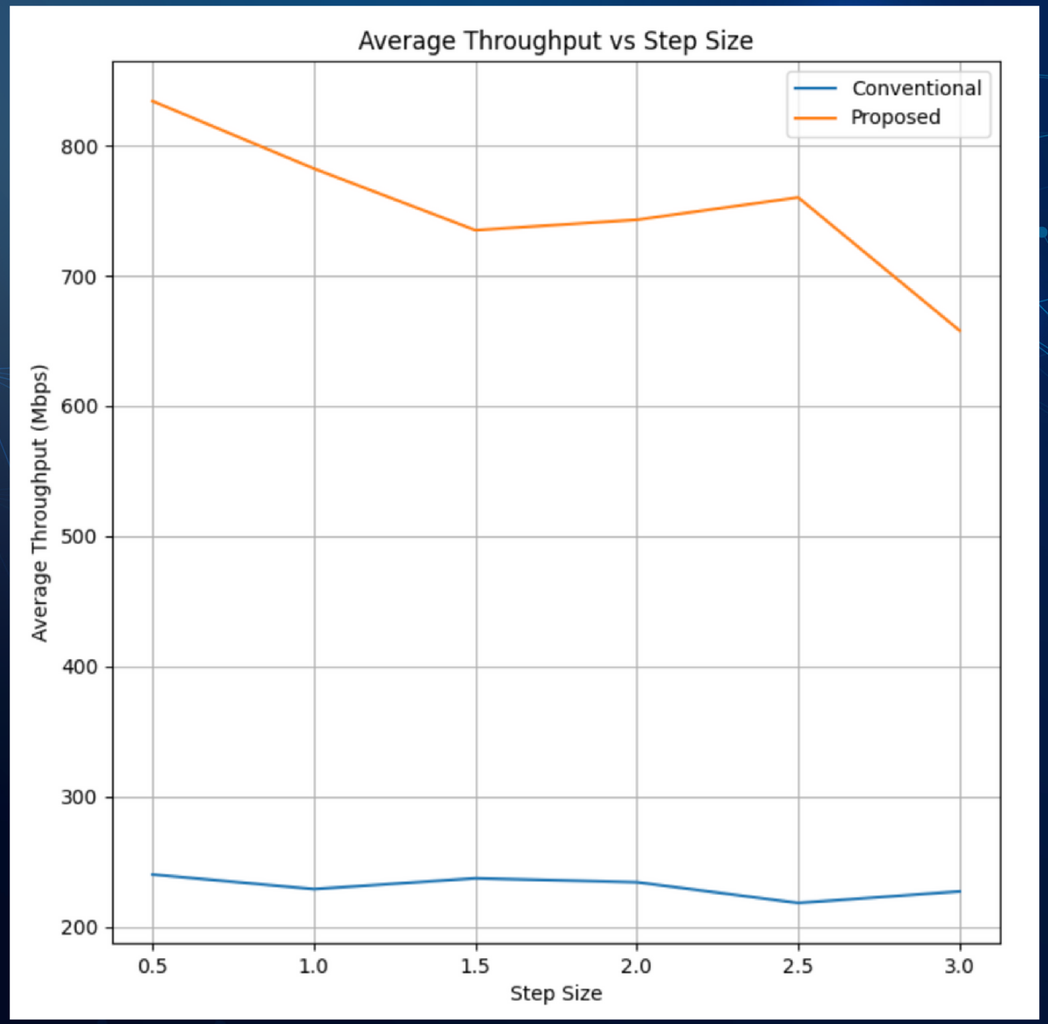
Introduction

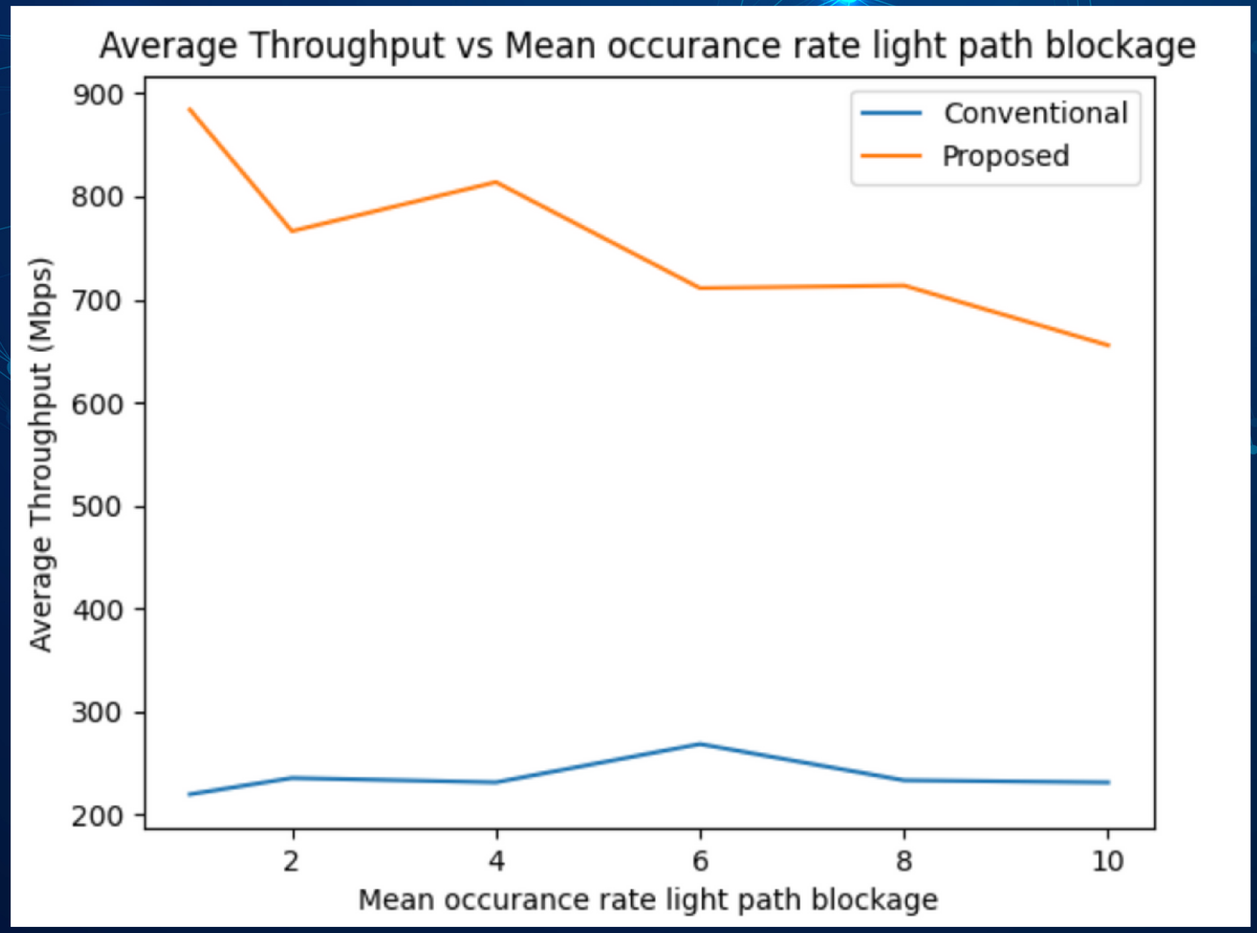
The surge in mobile data demand is straining radio-frequency (RF) spectrum capacity. To address this, LiFi, utilizing light for data transmission, has gained attention due to its advantages over WiFi. Hybrid LiFi and WiFi networks (HLWNets) merge LiFi's speed with WiFi's coverage. However, managing access points (APs) and handovers in HLWNets remains complex.

METHODOLOGY - Implementation

Our study proposes an innovative access point selection (APS) method for HLWNets. Unlike traditional approaches, our method considers user mobility and light-path blockages, categorizing network access as 'LiFi only,' 'WiFi only,' or 'LiFi/WiFi.' It optimizes load balancing (LB) and handover over a duration rather than choosing a specific AP at a given time.

SIMULATION RESULTS





CONCLUSION

In conclusion, our novel APS method for HLWNets optimizes load balancing and handover, addressing user mobility and light-path blockages. The approach notably enhances system throughput compared to conventional methods. Future research will focus on practical user behaviours and their impact on network performance.

DEMO...

Thank You