

**Title:** Understanding Performance of Internet Video using Network Measurement Data

**Speaker:** Dr. Tarun Mangla, Postdoctoral Scholar at University of Chicago

**Venue:** KD-101, Department of Computer Science and Engineering

**Date & Time:** Feb 20 (Monday), 2023 03:00 PM IST

**Abstract:**

Internet video is used extensively for entertainment, education, work, and telehealth and thus accounts for the majority of the Internet traffic. These two factors, i.e. video popularity and resource utilization, make it important to understand the network dynamics of Internet video. Understanding network behavior of the video, however, has several challenges, including (1). complex interactions among entities on the network path (e.g., CDNs, ISPs) and within the vertical network stack, (2). limited information available to some stakeholders (e.g., network operators), and (3). heterogeneity in network and user contexts. In this talk, I will cover two of my research directions that use network data to provide insights into the dynamic behavior of the Internet video applications. The first is on using passive measurements to enable network operators to understand Quality of Experience metrics for HTTP-based adaptive streaming (e.g., Netflix, YouTube). The second is on using empirical network data to understand performance and network utilization of video conferencing applications (e.g., Zoom). The talk will conclude with a brief discussion of my ongoing work on mapping broadband inequity and future research plans.

**Bio:**

Tarun is a Postdoctoral Scholar at University of Chicago (UChicago) working with Nick Feamster. He is interested in using data-driven methods to understand and improve performance and accessibility of the Internet. Before joining UChicago, Tarun received his Ph.D. from Georgia Tech in 2020, where he was advised by Mostafa Ammar and Ellen Zegura. He received his bachelor's degree from IIT Delhi in 2014. He is a recipient of the Best Paper Award at IFIP TMA, 2018.