

General Course Information:

ELEN E6776 TPCS in TELECOMMUNICATNS NETWORK: CONTENT DISTRIBUTION NETWORKS
W 06:50P-09:20P
SEELEY W. MU 337

Instructor Information

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Prerequisites

Basic knowledge of computer communication networks and probability theory.

Course Description

Content Distribution Networks (CDN's) have emerged to enhance users' experience of accessing all forms of content in efficient and scalable manner and has led to the proliferation of many new applications and services with commercial, technological and social impact. CDN design, optimization and management are becoming challenging due to growing numbers of content producers and consumers, expanding size of multi-media content, and demands for better content access from anywhere and at anytime. Therefore, there are great new opportunities for development and research.

In this course we study traditional and new emerging CDN's and examine current research topics and future directions. The course covers wide range of topics including: fundamentals of client-server, P2P and hybrid networks; multimedia streaming; study of operational (commercial and academic) CDN's; modeling, analysis and optimization methods of CDN architectures and protocols; content characterization and modeling; content caching and access management; content switching and data center networking; impact of overlay CDN's on underlay ISP networks; cross layer resource managements and emerging cooperative P4P models; mobile CDN's; social networks; future directions and open research problems.

Textbook

No textbook required.