



The Three Faces of Networking



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Abstract

What does a network connect: people? machines? infrastructures? All three are true, but one tends to dominate at any given time in response to societal needs. Telephony networks interconnected people, but the Internet recast communication as connecting machines. This was a subtle yet profound shift—machines have different failures, misbehaviors, and performance goals, which translated into the network design and still define much of our problem space today. As of late, however, another quiet change is playing out which demands a rethinking of networks. Societal infrastructures, such as power grids, water systems, and datacenters, are increasingly interdependent, but historically they were never designed for coordinated operation. Networking at the "infrastructure nexus" is becoming a pressing need, bringing with it a fresh source of research problems.

About the Speaker

Prof. Ang Chen is an Associate Professor in Computer Science and Engineering at the University of Michigan, Ann Arbor. Prior to this, he received his PhD at the University of Pennsylvania, and was a faculty member at Rice University. His research interests are in computer systems, networking, and security. He has received an NSF CAREER Award, a VMWare Early Career Faculty Grant, Best/Distinguished Paper Awards at FAST, APNet, USENIX Security, and the ACM SIGCOMM Rising Star Award.