Online Multimedia Data Analytics in Challenging Environments: Experiences and Solutions

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Online multimedia data analytics over wide-area networks have found diverse applications, including environmental monitoring, industrial automation, and autonomous systems, to name a few. In this talk, drawing from our recent research and development experiences in challenging environments, we will discuss our work on algorithm and system design in this field, including video and sonar analytics at the edge, serverless-based pipeline optimization, and streaming analytics over space networks. We will also explore the challenges and solutions related to real-world deployment, with a focus on remote ecosystems for wild salmon conservation along the Pacific Northwest coastline.