Compressed Sensing and Digital Fountains

Blahut was one of the first researchers to notice the tight connections between the signal processing and the coding areas. Coding using the real or complex fields was until a few years ago, a mere academic topic without any interesting applications. Recently, Elad and Donoho discovered an efficient method to recover a sparse signal from a set of random linear combination of its samples. This discovery created the compressed sensing area and new ways of sampling and representing signals.

Digital Fountain coding is a new concept where the traditional paradigm of transmitting information as an ordered stream of packets is changed to one where the user must receive a sufficient amount of packets in order to reconstruct the original information.

In this tutorial talk we will introduce these two concepts, Compressed Sensing and Digital Fountains, and how they are related. An overview of the applications of Digital Fountains will also be presented.

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