Scheduling of Collaborative Sequential Compressed Sensing Over Wide Spectrum Band

ABSTRACT

- We propose an integrated sequential wideband sensing scheduling framework that concurrently exploits sequential detection and compressed sensing techniques for more accurate and lower-cost spectrum sensing.
- First, to ensure more timely detection without incurring high overhead involved in periodic recovery of CS signals, we propose smart scheduling of a CS-based sequential wideband detection scheme to effectively detect the PU activities in the wideband of interest.

• The cognitive radio technology holds promise to significantly increase spectrum availability and wireless net-work capacity.

EXISTING SYSTEM

• With more spectrum bands opened up for CR use, it is critical yet challenging to perform efficient wideband sensing

PROPOSED SYSTEM

- To further help users under severe channel conditions identify the occupied sub-channels, we develop two collaborative strategies, namely, joint reconstruction of the signals among neighboring users and wideband sensing-map fusion.
- To achieve robust wideband sensing, we propose the use of anomaly detection in our framework.

HARDWARE REQUIREMENTS Intel core i3 • Processor • RAM - 2B Hard Disk - 20 GB •

SOFTWARE REQUIREMENTS

- Operating System : LINUX
- Tool : Network Simulator-2

• Front End : OTCL (Object Oriented Tool Command Language)

REFERENCE

- [1] I. F. Akyildiz, B. F. Lo, and R. Balakrishnan, "Cooperative spectrum sensing in cognitive radio networks: A survey,", Mar. 2011.
- [2] H. Sun, W.-Y. Chiu, and A. Nallanathan, "Adaptive compressive spec-trum sensing for wideband cognitive radios,", Nov. 2012.
- [3] Y. L. Polo, Y. Wang, A. Pandharipande, and G. Leus, "Compressive wide-band spectrum sensing,", Apr. 2009.
- [4] S. Bae and H. Kim, "Robust cooperative sensing with ON/OFF signaling over imperfect reporting channels,", Dec. 2016.