Compressive Sensing over Quantified Input via Machine Learning

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Abstract

NEED to be kept in 75-200 words. The number of pages cannot exceed30, but only 10 pages are free.

Compressive sensing (CS) is a technique frequently adopted in telecommunication area. The application of CS could be found in subareas such as software defined radio, cognitive radio and internet of things. By adopting CS, the receiver could sense the channel with weaker analog to digital converter. Although there are already many research focused on CS, doing CS with quantified input is still an open question. By adopting Machine Learning (ML) techniques, we offer an answer to spectral sensing with multi-Coset sampling scheme. Comparison with traditional methods are shown and its properties are analyzed.

Index Terms

IEEE, IEEEtran, journal, LATEX, paper, template.

I. Introduction

This demo file is intended to serve as a "starter file" for IEEE journal papers produced under LATEX using IEEEtran.cls version 1.8b and later.

Introduce CS. Insert the history, application of CS. Show that different from the CS in image, the CS in telecom must obey the limitation of hardware. Introduce quantification and multicoset.

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Show that spectrum sensing's information requirement, unlike signal recovery, is not as well-defined. Introduce ML, show that it could be an alternative for optimization based methods. Present the structure of the paper.

mds

August 26, 2015

A. Subsection Heading Here

Subsection text here.

1) Subsubsection Heading Here: Subsubsection text here.

II. System model

A. MultiCoset

Show the multicoset model we used.

B. Machine Learning model

Show the ML model we adopted. Show the losses we tested. Could include split end as an attemptation to reduce the complexity.

C. divide and conquer tactic

Show that ML scalability issue. Introduce dividing technique. Showing that ML could work even on not so sparce signals.

III. Simulation Results

A. Environment setting

Show the simulation background, and the comparison algorithm

B. loss

Show The comparison of different losses

C. SNR

Show the comparison among different SNR.

D. cosets and occupied channels

Show the comparison under different parameters

E. divide and conquer

Show the results on divide and conquer

IV. Conclusion

The conclusion goes here.

Appendix A
Proof of the First Zonklar Equation

Appendix one text goes here.

Appendix B

Appendix two text goes here.

Acknowledgment

The authors would like to thank...

References

[1] H. Kopka and P. W. Daly, *A Guide to LaTeX*, 3rd ed. Harlow, England: Addison-Wesley, 1999.

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Michael Shell Biography text here.

John Doe Biography text here.

Jane Doe Biography text here.