"Machine Learning Based Voice Transmission Using Visible Light Communication System"

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1. ABSTRACT

We investigate the design and implementation of machine learning based demodulation methods in the physical layer of visible light communication system. Visible light communication system has the potential to add significant capacity to short range wireless access technology by piggybacking data on light from overhead luminaires. Here a serial binary bit stream is randomly generated and modulated in different types of signals on computer with MATLAB. We build aexible hardware prototype of an end to end visible light communication system. From which the received signals are collected, as a real data. We are going to perform demodulation with adaboost technique. The ad boost method includes strong classifiers that are constructed by the weak classifiers with the k nearest neighbor algorithm.

2. INTRODUCTION

Lighting is a major source of electric energy consumptions. Visible light communication is a data communication medium using visible light between 400 THz 800 THz. Traditional radio frequency system are currently facing spectrum crisis, which is bottleneck of enhancing the network capacity. Visible light communication system typically employs the intensity modulation and direct detection technologies for both the illumination and data transmission where the information is respected by the real and nonnegative light signals.

3. CONCLUSION

There are many applications that can be realized using Visible Light Communication. Careful consideration will be needed to introduce it into a market.

4. REFRENCE

http://press-releases.techwhack.com/25210-irda

T. Konini and M. Nakagawa, "Fundamental analysis for visible-light communication system using LED lights," IEEE Trans. Consumer Electron vol. 50

The Case for Vehicular Visible Light Communication (VLC): Architecture, Services and Experiments by Caen Bi Liu