Abstract

According to Ayurveda, human health status can be measured by using three fingers as ‘VATA’, ‘PITTA’ and ‘KAPHA’ called Tridosha. This is very effective method to know the status of human body. But for this type of diagnosis practitioner requires long term training. Also the diagnoses from practitioner often deviate greatly due to their subjective experience. Thus, it is highly required to design such a system which diagnoses human health status objectively not subjectively.

In this paper, design of an embedded system, which classifies the health status, is discussed. This system first convert time domain signal into frequency domain using Fast Fourier Transform (FFT). Using Band Energy Ratio (BER) feature vector is retrieved from frequency domain signal. This feature vector is applied to the linear as well as quadratic classifier. This will classify the human health in a group of two as healthy or unhealthy.
1. Basics of Ayurveda:
2. Traditional method of diagnosis based on wrist pulse.
http://livingayurveda.co.uk/pulse-diagnosis-reading-whole-person-pulse/
3. Guangming Lu, ZhiXing Jiang, LiYing Ye “Pulse Feature Extraction based on Improved
Gaussian Model” 2014 International Conference on Medical Biometrics
4. Shujie Gong, Bin Xu, Guodong Sun, MingRui Chen, Nanyue Wang, Chiyu Dong, Peng
Wang, Jian Cui,” Accurate Cirrhosis Identification with Wrist-Pulse Data for Mobile Healthcare”,
mHealthSys 2012 Toronto, Canada
5. Bhaskar Thakker, Anoop L. Vyas,” Frequency Domain Analysis of Radial Pulse in
Abnormal Health Conditions”, 2010 IEEE EMBS Conference on Biomedical Engineering &
Sciences (ICCBES 2010), Kuala Lumpur, Malaysia, 30th November - 2nd December 2010.
6. Datasheet of STM32F429xx
8. Complex Fixed-Point Fast Fourier Transform Optimization for AltiVec™, Freescale
Semiconductor Application Note, Document Number: AN2114Rev. 4, 04/2013
Classification” International Journal of Computer Applications 22 (7):13–19, May 2011

Index Terms

Computer Science Signal Processing

Keywords

Ayurveda, Fast Fourier Transform (FFT), Band Energy Ratio (BER), Classifier.