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Stress recognition using photoplethysmogram signal (Article)

Abd Halim, N.H.A. [✉](#), Sidek, K.A., Mansor, H. [🔍](#)

Department of Electrical and Computer Engineering, International Islamic University Malaysia, P.O. Box 10, Jalan Gombak, Kuala Lumpur, Malaysia

Abstract

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This study proposed a novel method of stress recognition using photoplethysmogram (PPG) signal. PPG devices are now widely used because it is convenient, low powered, cheap and also easy to handle due to its small size. A total of 5 subjects were involved in this study. The PPG signals were taken in resting condition using pulse oximetry. The subject then goes through a stressor test in order to record the physiological changes. The data were collected before and after the test was conducted and later extracted. These samples were then categorised using classification techniques to differentiate between normal and stress condition. Based on the experimentation results, the systolic peak value differences of normal and stress conditions are evident. Therefore, the outcome of this study suggest the reliability of implementing PPG signal for stress recognition. © 2017 Institute of Advanced Engineering and Science. All rights reserved.

Author keywords

Photoplethysmogram (PPG) Pulse oximetry Stress Stroop Systolic peak

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🔍 Abd Halim, N.H.A.; Department of Electrical and Computer Engineering, International Islamic University Malaysia, P.O. Box 10, Jalan Gombak, Kuala Lumpur, Malaysia; email:azami@iiu.edu.my

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