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HELEN WAY KLINGLER
COLLEGE OF ARTS AND SCIENCES

Department of Mathematics, Statistics and Computer Science

COLLOQUIUM ANNOUNCEMENT

Develop a Novel Feature Extraction Techniques for the Fingertip Videos and Apply Artificial Neural Network to Build Hemoglobin Prediction Model

Md Kamrul Hasan

Department of Mathematics, Statistics, and Computer Science
Marquette University

2:00 PM, Friday November 16, 2018

Cudahy Hall, Room 401

Abstract

This report illustrated the use of smartphone video imaging and an artificial neural network (ANN) system to estimate hemoglobin levels non-invasively. A 10 second fingertip video was recorded using a smartphone in 75 subjects. Red, green, and blue pixel intensities were estimated for each of 10×10 block area in each frame and the patterns across the frames were described. ANN was then used to develop a model using the extracted video features to predict hemoglobin levels. In this study sample, with patients 20-56 years of age, and gold standard hemoglobin levels of 7.6 to 13.5 g/dL., we observed a reliable rank order of correlation between model and gold standard hemoglobin levels. Moreover, a specific region of interest was identified in the video images.

1313 W. Wisconsin Avenue, Cudahy Hall, Room 401, Milwaukee, WI 53201-1881

For further information: see <http://www.marquette.edu/mcs/resources-colloquium.shtml>

or contact Dr. Debbie Perouli #414-288-3889, despoina.perouli@marquette.edu

*POST COLLOQUIUM REFRESHMENTS SERVED IN
CUDAHY HALL, ROOM 342 AT 3:00 P.M.*