Tusher Chandra Mondol

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RESEARCH INTEREST

Artificial Intelligence, Machine Learning, and Data Science.

EDUCATION

Khulna University of Engineering & Technology   **Khulna, Bangladesh**
B.Sc in Computer Science and Engineering   *March,2015-March,2019*
CGPA: 3.25/4.00

CGPA of last 3 semesters: 3.54

KEY SKILLS

Programming Language	Python, C, C++
Web Based Language	HTML, CSS, PHP
DBMS	Oracle, MySQL
IDE	Anaconda, CodeBlocks
Software Packages	CISCO Packet Tracer
Operating System	Windows, Ubuntu

PUBLICATIONS

§ **Tusher Chandra Mondol**, Hasib Iqbal, M M A Hashem.
  "Deep CNN-Based Ensemble CADx Model for Musculoskeletal Abnormality Detection from Radiographs"
  primarily accepted in 5th International Conference on Advances in Electrical Engineering (ICAEE 2019).

RESEARCH EXPERIENCE

"Deep CNN-Based Ensemble CADx Model for Musculoskeletal Abnormality Detection from Radiographs"

§ The main goal of this research is to develop a computer-aided diagnosis (CADx) model that will help the doctors to identify musculoskeletal abnormalities through radiographs. Our proposed technique tested on a benchmark radiographic dataset named 'MURA'.

§ This research finds out the various suitable benchmark architectures (VGG-19, ResNet, DenseNet) efficiency to detect musculoskeletal abnormalities in radiograph and leads to propose a hybrid supervised machine learning approach.

§ This Hybrid approach generates 85.85% accuracy which is relatively better than other classifiers in terms of performance metrics.

"Non-Invasive Measurement of Blood Components Level from PPG Characteristics Features of Fingertip Video Using Deep Neural Networks"

§ The main goal of this research is to propose a new non-invasive, and convenient method with the motive of measuring blood components level (Hemoglobin, Glucose, Hemoglobin--A1C, and Creatinine) using Photoplethysmogram (PPG) characteristics features which are extracted from fingertip videos.

§ Genetic Algorithm (GA) was used to select best features and finally a Deep Neural Networks (DNNs) model was developed to measure blood components level.

§ This approach estimates the accuracy of ± 0.243 gm/dL (R = 0.940), ± 0.237 mmol/L (R = 0.975), ± 0.112 (%) (R = 0.949), and ± 0.031 mg/dL (R = 0.939) respectively for Hemoglobin, Glucose,

Hemoglobin A1C, and Creatinine.

SELECTED ACADEMIC PROJECTS

Secured Automated Toll Collection System   *Nov 2017-April 2018*
§ It is a Raspberry Pi based system concerned with fully automated toll collection system using RFID tags with privacy preserving mutual authentication system.
§ It has a websites that works as a bridge between authority and citizens.

Library Management System   *April 2017 – October 2017*
§ This websites helps to manage daily activities of a library.
§ It helps to check available books, take books as loan, check fine, check abilities of a student to take loan, total amount of loans in a day.

Alumni Association Management System   *Nov 2016 – April 2017*
§ A web platform to manage alumni association of a university.
§ It works as a bridge between authority and citizens.

AWARDS AND ACHIEVEMENTS

§ Champion in University Day Project Showcasing, 2017, organized by KUET.
§ Champion in Intra Department Idea Contest, 2017, organized by CSE association, KUET.
§ 2nd in System Development Project, 2017, organized by Department CSE, KUET.
§ 5th in Intra KUET Programming Contest, 2016, organized by Department CSE, KUET.
§ Scholarship from Chevron International REACH Scholarship Program.
§ Vocational Scholarship from Khulna University of Engineering and Technology (2015-2018).

ONLINE COURSES

§ Machine Learning by Stanford University (Hosted by Coursera).

LEADERSHIP & VOLUNTARY ACTIVITIES

§ Vice President, CSE association, KUET.
§ Vice President, Special Group Interested in Programming Contest(SGIPC), KUET.
§ General Secretary, Hardware Acceleration Club of KUET(HACK), KUET.
§ General Secretary, Dream(blood donating organization), KUET.
§ Chief Organizer, Youth Summit (2017,2018), KUET.
§ Organizer, National High School Programming Contest, Khulna Zone (2015,2016,2017).

REFERENCES

§ **Dr. M.M.A Hashem**
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