
From: Microsoft CMT

Sent: Monday, April 25, 2022 4:44 AM

To: md.farhadul.islam@g.bracu.ac.bd

Subject: International Conference on Emerging Technologies in Computing 2022 (iCETiC '22) : Submission (6) has been edited.

Hello,

The following submission has been edited.

Track Name: ICETIC2022

Paper ID: 6

Paper Title: Monte Carlo Dropout for Uncertainty Analysis and ECG Trace Image Classification

Abstract:

Cardiovascular diseases (CVDs), such as arrhythmias (abnormal heartbeats) are the prime cause of mortality across the world. ECG graphs are utilized by cardiologists to indicate any unexpected cardiac activity. Deep Neural Networks (DNN) serve as a highly successful method for classifying ECG images for the purpose of computer-aided diagnosis. However, DNNs can not quantify uncertainty in predictions, as they are incapable of discriminating between anomalous data and training data. Hence, a lack of trust in automated diagnosis and the potential to cause severe decision-making issues is created, particularly in medical practises. In this paper we propose an uncertainty-aware ECG classification model where Convolutional Neural Networks (CNN), combined with Monte Carlo Dropout (MCD) is employed to evaluate the uncertainty of the model, providing a more trustworthy process for real-world scenarios. We use ECG images dataset of cardiac and covid-19 patients containing five categories of data, which includes COVID-19 patients' ECG records as well as data from other cardiovascular disorders. Our proposed model achieves 93.90% accuracy using this dataset.

Created on: Sun, 24 Apr 2022 22:08:01 GMT

Last Modified: Sun, 24 Apr 2022 22:44:05 GMT

Authors:

- md.farhadul.islam@g.bracu.ac.bd (Primary)
- sarah.zabeen@g.bracu.ac.bd
- humaion.kabir.mehedi@g.bracu.ac.bd
- shadab.iqbal@g.bracu.ac.bd
- annajiat@gmail.com

Primary Subject Area: AI, Expert Systems and Big Data Analytics

Secondary Subject Areas: General Track

Submission Files:

Monte_Carlo_Dropout_for_Uncertainty_Estimation_and_ECG_Classification.pdf (2 Mb, Sun, 24 Apr 2022 22:43:33 GMT)

Submission Questions Response:

1. How many AETiC papers did you cite?

0

2. Ad

Word of Mouth (Such as colleagues)

Thanks,
CMT team.

Download the CMT app to access submissions and reviews on the move and receive notifications:

<https://apps.apple.com/us/app/conference-management-toolkit/id1532488001>

<https://play.google.com/store/apps/details?id=com.microsoft.research.cmt>

To stop receiving conference emails, you can check the 'Do not send me conference email' box from your User Profile.

Microsoft respects your privacy. To learn more, please read our [Privacy Statement](#).

Microsoft Corporation
One Microsoft Way
Redmond, WA 98052