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BRAIN TUMOR MRI MEDICAL IMAGES CLASSIFICATION MODEL BASED ON CNN (BTMIC-CNN)

[Al-Galal, Sabaa Ahmed Yahya](#) ; [Alshaikhli, Imad Fakhri Taha](#); [Abdulrazzaq M.M.](#); [Hassan, Raini](#)[Save all to author list](#)^a Dept. of Computer Science, International Islamic University Malaysia, Jalan Gombak, Selangor, Kuala Lumpur, 53100, Malaysia[Full text options](#) [Export](#) [Abstract](#)

Author keywords

Sustainable Development Goals 2023

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Metrics

Abstract

This research discusses a fully automatic brain tumour MRI medical images classification model that use Convolutional Neural Network (BTMIC-CNN). The proposed neural model adopted Design Science Research Methodology (DSRM) to classify MRI medical images from two datasets. One for binary classification task (contains tumorous and non-tumorous images). And the second for multiclass classification task (contains three types of brain tumor MRI medical images namely: Glioma, meningioma, and pituitary). The model's excellent performance was confirmed using the evaluation metrics and reported an overall accuracy of 99%. It outperforms existing methods in terms of classification accuracy and is expected to help radiologists and doctors accurately classify brain tumours' images. This study contributes to goal three of the Sustainable Development Goals (SDGs), which involves excellent health and well-being. © School of Engineering, Taylor's University.

Author keywords

Binary classification; Brain tumor; CNN; Medical images; MRI; Multiclass classification

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