14 (14)

INDERSCIENCE PUBLISHERS
Linking academia, business and industry through research

Forthcoming and Online First Articles

International Journal of Medical Engineering and Informatics

Forthcoming articles have been **peer-reviewed** and **accepted for publication** but are pending final changes, are not yet published and may not appear here in their final order of publication until they are assigned to issues. Therefore, the content conforms to our standards but the presentation (e.g. typesetting and proof-reading) is not necessarily up to the Inderscience standard. Additionally, titles, authors, abstracts and keywords **may change before publication**. Articles will not be published until the final proofs are validated by their authors.

Forthcoming articles must be purchased for the purposes of research, teaching and private study only. These articles can be cited using the expression "in press". For example: Smith, J. (*in press*). Article Title. *Journal Title*.

Articles marked with this shopping trolley icon are available for purchase - click on the icon to send an email request to purchase.

Online First articles are published online here, before they appear in a journal issue. Online First articles are fully citeable, complete with a DOI. They can be cited, read, and downloaded. Online First articles are published as Open Access (OA) articles to make the latest research available as early as possible.

Articles marked with this Open Access icon are Online First articles. They are freely available and openly accessible to all without any restriction except the ones stated in their respective CC licenses.

Register for our alerting service, which notifies you by email when new issues are published online.

We also offer Latest issue contents as RSS feed which provide timely updates of tables of contents, newly published articles and calls for papers.

Sign up for new issue alerts

Subscribe/buy articles/issues

View sample articles

Latest issue contents as RSS feed

Forthcoming articles

Journal information in easy print format (PDF)

Keep up-to-date

Our Blog

Follow us on Twitter

Visit us on Facebook

Our Newsletter (subscribe for free)

RSS Feeds

New issue alerts

During a fall, an automated call is generated to the emergency services as well as to a caretaker through a GSM module. Two datasets are collected, trained and tested on seven different machine learning models, and the results presented.
***Keywords**: machine learning; fall detection; wearable device; medical applications.*
DOI: 10.1504/IJMEI.2022.10048147

- **Healthcare services: applications, trend, and challenges**

by Abderrazak Sebaa, Nabil Djebari, Abdelkamel Tari
Abstract: Recently, a large amount of heterogeneous health-related data and services are generated daily. Therefore, managing these medical flows of data and services requires complex and costly techniques. Moreover, the big service paradigm has received growing attention in various disciplines. This study aims to review and investigate the impact of service computing on health and medical sector. It illustrates the big service challenges, applications and describes how healthcare will benefit from service computing advances. A number of potential research opportunities related to the big service computing paradigm and underlying issues that require longer-term work are also discussed in this paper.
***Keywords**: big service; big data; web service; medical services.*
DOI: 10.1504/IJMEI.2022.10048151

- **Brain image compression and reconstruction system using deep learning**

by S. Seenuvasamurthi, S. Ashok, B. Shankarlal, A. Mohamed Abbas, Ashok Vajravelu
Abstract: New perspectives on brain structure and function can only be gained through the rapid advancement of brain imaging technology. Throughout history, this has been the case. It is common practise in medicine to employ image processing in the early stages of diagnosis and treatment. In classification and segmentation tasks, deep neural networks (DNNs) have so far proven to be exceptional. Functional ultrasound (fUS) is a novel imaging technique that enables the observation of neuronal activity across the brain in awake, ambulatory rats. To achieve adequate blood flow sensitivity in the brain microvasculature, fUS relies on lengthy ultrasonic data collecting at high frame rates, placing a load on the sampling and processing hardware. Parallel MRI is introduced in broad terms, with an emphasis on the classical understanding of image space and k-space-based techniques.
***Keywords**: accelerated MRI; parallel imaging; iterative image reconstruction; numerical optimisation; machine learning; deep learning.*
DOI: 10.1504/IJMEI.2022.10048343

- **Brain cancer analysis using deep learning architecture on MRI brain image**

by B. Kannan, S. Karthigai Lakshmi
Abstract: Brain cancer diagnosis in the medical images sector without human involvement is a huge complex one. The brain tumour tissue can be detected from the whole brain are extremely difficult. Multi-sequence MRI technology is not standardised in brain tumour segmentation clinical practice and hence, a flexible segmentation process is required which uses all of the available MRI data optimally. The proposed algorithm provides a precise and robust segmentation of tumours, which helps in diagnosis, therapy planning, and risk factor detection. SVM classification and convolutional neural network classification are applied and analysed. The proposed system obtains more accurate predictions.
***Keywords**: image processing; MRI images; brain tumour; SVM classification; watershed image segmentation techniques; deep learning.*
DOI: 10.1504/IJMEI.2022.10048344

- **Detection of Parkinson's disease using CNN**

by M. Kamesh, C. Augustine, D. Sarathy, S. Leopauline, Sheshang D. Degadwala
Abstract: Parkinson's disease can be diagnosed using computer-assisted diagnosis systems based on brain imaging, with the ultimate goal of finding patterns that characterise the disease. In this case, convolutional neural networks (CNNs) have proven to be extremely beneficial. Neurological disease Parkinson's disease (PD) is characterised by a decrease in the brain's dopamine-producing neurons. Patients with Parkinson's disease have difficulty producing speech due to a lack of coordination in the muscles that control breathing, phonation, articulation, and prosody, among other things. Speech analysis can be used by clinicians to objectively assess the severity of Parkinson's disease in a non-invasive manner. In the LSTM layer, the output is then analysed for important temporal feature relationships. Existing state-of-the-art CNN models are compared to the proposed DenseNet-LSTM model. Training accuracy is 93.75%, testing accuracy is