2023 5th International Conference on Intelligent Medicine and Image Processing (IMIP 2023)

Tianjin, China
17-20 March 2023

IEEE

IEEE Catalog Number: CFP23DO5-POD
ISBN: 979-8-3503-3740-2

Copyright © 2023 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number: CFP23DO5-POD
ISBN (Print-On-Demand): 979-8-3503-3740-2
ISBN (Online): 979-8-3503-3739-6

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings .com

2023 5th International Conference on Intelligent Medicine and Image Processing (IMIP)

IMIP 2023

Table of Contents

Preface ..... **viii**
Conference Committee ..... **ix**
Reviewers ..... **xi**

Medical Image Data Processing and Computer Aided Diagnosis

Deep Neuroevolution to Predict Astrocytoma Grade from Functional Brain Networks 1
Joseph Stember (Memorial Sloan Kettering Cancer Center, USA), Mehrnaz Jenabi (Memorial Sloan Kettering Cancer Center, USA), Luca Pasquini (Memorial Sloan Kettering Cancer Center, USA), Kyung Peck (Memorial Sloan Kettering Cancer Center, USA), Andrei Holodny (Memorial Sloan Kettering Cancer Center, USA), and Hrithwik Shalu (Indian Institute of Technology Madras, India)

Prediction of Intracerebral Hemorrhage Based on the Image-Related and Clinical Text Features 7
Ping Chen (Shandong Normal University, China), Pu Huang (Shandong Normal University, China), Zhanhao Mo (China-Japan Union Hospital of Jilin University, China), and Dengwang Li (Shandong Normal University, China)

Detecting Autism Spectrum Disorder from Functional Magnetic Resonance Imaging Data with an Ensemble Machine Learning Method 13
Chenxi Sun (Shandong University, China), Duanchen Sun (Shandong University, China), and Zhi-Ping Liu (Shandong University, China)

Bronchoscopic Localization Method Guided by Prior Knowledge of Branch Structure 21
Liugeng Zang (Beijing Institute of Technology, China), Danni Ai (Beijing Institute of Technology, China), Shiyuan Liu (Beijing Institute of Technology, China), Hong Song (Beijing Institute of Technology, China), and Jian Yang (Beijing Institute of Technology, China)

Application in Tumor Classification Based on Target Morphological Consistency Patches Adaptively Extracted and Priori Guided Feature Extraction Method 27
Yonglong Zhang (NorthEastern University, China), Xinhua Ma (NorthEastern University, China), Johana Comlan (NorthEastern University, China), Huiyan Jiang (NorthEastern University, China), and Wenbo Pang (NorthEastern University, China)

Classification of Skin Tumor Lesions Based on Transfer Learning Using Dermoscopic Images 33
Muhammad Minhas Iqbal (Central South University, China)

Two-Stage Method for Automatic Detection of Pelvic Landmarks 39
Chenyang Lu (Shandong University, China), Wei Chen (Shandong First Medical University and Shandong Academy of Medical Sciences, China), Xu Qiao (Shandong University, China), and Qingyun Zeng (Shandong University of Traditional Chinese Medicine, China)

Multiple Regions of Interest Method Reveals An Asynchronous Regression of MRI Image Quality 45
Xun Liu (Shanghai Institute of Medical Device Testing, China), Yu Yang (Shanghai Institute of Medical Device Testing, China), and Sheng Hu (Shanghai Institute of Medical Device Testing, China)

Medical Image Segmentation and Image Reconstruction

MpVit-Unet: Multi-Path Vision Transformer Unet for Sellar Region Lesions Segmentation 51
QingQing Hong (Yangzhou University, China), Hao Sun (Yangzhou University, China), Bin Li (Yangzhou University, China), AiJun Peng (Affiliated Hospital of Yangzhou University, China), LiangXue Zhou (Sichuan University, China), and ZhengHua Zhang (Yangzhou University, China)

Hiearachical Construction of Pulmonary Vascular Trees from CT Images Based on Combined Deep Learning and Graph Topology Optimization 59
Bobo Qin (Dalian University of Technology, China) and Hongkai Wang (Dalian University of Technology, China)

Regional Information Correction Network for Polyp Segmentation 64
Yukuai Shao (Anhui University, China), Haifeng Zhao (Anhui University, China), Lili Huang (Anhui University, China), Lingong Dai (Anhui University, China), and Yihan Wang (Anhui University, China)

Effects on Selective Removal of Adversarial Examples for Noisy X-ray Images 72
Haruto Namura (Doshisha University, Japan), Tatsuki Itasaka (Doshisha University, Japan), and Masahiro Okuda (Doshisha University, Japan)

Multi-view Stereo with Feature Pyramid Network for Depth Inference and Iterative Optimization 77
Xinhua Liu (Wuhan University of Technology, China), Mengqi Chen (Wuhan University of Technology, China), Xiaolin Ma (Wuhan University of Technology, China), and Hailan Kuang (Wuhan University of Technology, China)

Biomedical Informatics and Applied Modeling

Privacy Policies of Free Medical, Health, Fitness Mobile Applications and the GDPR 84
Muhammad Yaqub (Beijing University of Technology, China), Feng Jinchao (Beijing University of Technology, China), Imran Shabir Chuhan (Beijing University of Technology, China), Kaleem Arshid (Beijing University of Technology, China), and Wenqian Zhang (Beijing University of Technology, China)

Non-Symmetrical Sibling-Stream Network with Adaptive Positional Encoding for Automatic Medical Report Generation 97
Jiayu Si (Anhui University, China), Haifeng Zhao (Anhui University, China), Lili Huang (Anhui University, China), and Zhengzheng Tu (Anhui University, China)

Design of an Epidemic Prevention and Control System Based on SIR Model A Community-Based Example 104
Chuanjie Lei (Wuhan Business University, China), Qing Shen (Wuhan Business University, China), Jinqi Ma (Wuhan Business University, China), Baoyuan Qi (Wuhan Business University, China), and Zihao Xiong (Wuhan Business University, China)

Identifying Abnormal Sessions via Adversarial Learning on Heterogeneous Information Network 109
Tao Gong (Huazhong University of Science and Technology, China) and Dehong Qiu (Huazhong University of Science and Technology, China)

Author Index **117**