

2025 32nd National and 10th International Iranian Conference on Biomedical Engineering (ICBME 2025)

**Tabriz, Islamic Republic of Iran
19-20 November 2025**

Pages 1–743

IEEE Catalog Number:
ISBN:

CFP2518K-POD
979-8-3315-7715-5



Copyright © 2025, IEEE

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:	CFP2518K-POD
ISBN (Print-On-Demand):	979-8-3315-7715-5
ISBN (Online):	979-8-3315-7714-8

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

TABLE OF CONTENTS

Vision Transformer-Based Emotion Recognition in EEG Using Pseudo-Image Construction	1
<i>Ali Kouchakzadeh, Soheil Moradi, Mohammad Mohsen Ebrahimi Seyghalan, Mehdi Fardmanesh</i>	
A Quantitative Approach to Evaluate Rhus Coriaria Nanophytosomes in Ketamine-Induced Liver Injury	6
<i>Narjes Amin, Akbar Hajizadeh Moghadam, Amin Mohammad Mohammadi, Kimia Mozahheb Yousefi Fereshteh Mir Mohammadrezaei, Sedigheh Khanjani Jelodar</i>	
Dynamic Classification of Resting-State EEG Using Adaptive Functional Connectivity in Mild Traumatic Brain Injury	11
<i>Farzaneh Manzari, Peyvand Ghaderyan</i>	
(AFO): Influence of Shell and Insole Thickness Across Material Variants	16
<i>Maryam Sheikhi, Aisan Rafiei, Nima Jamshidi</i>	
Mitigating MRI Domain Shift in Sex Classification: A Deep Learning Approach with Combat Harmonization	21
<i>Peyman Sharifian, Mohammad Saber Azimi, Masoud Noroozi, Ali Reza Karimian, Hossein Arabi</i>	
Neuromuscular Coordination in Badminton Smashes: Validation of Musculoskeletal Models	26
<i>Raheleh Tajik, Hamed Fadaei</i>	
Gait-Triggered Neuromuscular Electrical Stimulation with Unloader Knee Braces: A Feasibility Study	31
<i>Mohadeseh Jafarian, Reza Khosrozadeh Sarijalou, Amin Komeili, Kourosh Barati, Navid Arjmand</i>	
Short-Term Gains vs. Long-Term Success: Reward Strategy Design for Reinforcement Learning in Football	36
<i>Mohammad Pashaei, Amirhossein Tayebi, Hadi Amiri, Ali Fahim</i>	
Parametric Study on the Separation of Extracellular Vesicles in a Sheathless Spiral Microfluidic Device	41
<i>Mohammad Mahdi Abdi, Seyedeh Sarah Salehi</i>	
Modeling Attention Performance Across Female Reproductive Aging Using Logistic Regression	46
<i>Zahra Zehtabi, Leila Mehdizadeh Fanid, Pedram Salehpoor, Mahdi Jafari Asl</i>	
MRI to SPECT Image Translation for Parkinson's Disease Diagnosis	51
<i>Pegah Zandian Pour Esfahani, Abolfazl Adib Almojahedi, Seyyede Zoheh Seyyedsalehi</i>	
Ultimate Failure Load of Plate-Based Fixation and a Suture Anchor for Rotator Cuff Repair Across Polyurethane Bone Densities	57
<i>Parviz Ahangar, Solmaz Mojadam Mofrad, Amir Nourani, Amirhasan Amini, Erfan Ahmadpour Joeini Mohammad nasir Naderi</i>	
Evaluation of Mechanical and Biological Properties of PCL-coated Magnesium Scaffolds	62
<i>Fatemeh Sharifabadi, Sayed Khatiboleslam Sadrnezhad</i>	
Investigation of Microbubble Motion in a Microvessel with Various Obstructions Filled with Viscous Fluid: A Finite Element Modeling Study	67
<i>Mahdi Mirzaei, Afsaneh Mojra</i>	
Backward Walking Under Dual-Task Conditions Among Young Adults: A Potential Tool for Early Detection of Gait Instability and Fall Risk	72
<i>Zahra Ouni, Hassan Khoudeh, Mina Niknam, Fariborz Rahimi</i>	

Finite Element Analysis of Mechanical Stability in Hip Joint Implants: A Comparative Study of Ti-6Al4V and Ti-13Nb-13Zr Alloys	77
<i>Mohammad Amin Parsaei Tashi, Mohammad Haghpanahi</i>	
Leveraging Online Data to Enhance Medical Knowledge in a Small Persian Language Model	82
<i>Mehrdad Ghassabi, Pedram Rostami, Hamidreza Baradaran Kashani, Amirhossein Poursina Zahra Kazemi, Milad Tavakoli</i>	
A Telemedicine Approach to Therapist-Free VR Exposure Therapy for Acrophobia: A Pilot Study	90
<i>Arya Gholipoor Hanizi, Samaneh Minakhani, Poorya Gholipoor</i>	
Functionally Graded Material Vertebroplasty Screws: A Finite Element Biomechanical Study	95
<i>Maryam Rahimi, Mohammad Hosein Zadeh-Posti, Aisan Rafiei, Nima Jamshidi</i>	
Effects of Laminectomy on Active-Passive Spine Loads: A Musculoskeletal Finite Element Modeling Investigation	100
<i>Aida Ahmadi, Navid Arjmand, Parisa Azimi</i>	
Effects of Levodopa and Visual Condition on the Complexity of Postural Control in Parkinson's Disease Patients with and Without Freezing of Gait Through a Multiscale Entropy Approach	105
<i>Kiarash Banan Motarjem, Amirhassan Khalouzadeh Mobarakeh, Aria Behroozi, Elham Shirzad Araghi</i>	
Gene Expression Changes Induced by Atorvastatin in Breast Cancer and Stem Cells	110
<i>Seyed Mahdi Mousavi, Yaghub Pazhang</i>	
Prediction of Cardiac Arrhythmia via an Improved Hierarchical Fused Fuzzy Deep Learning	114
<i>Arman Daliri, Nora Mahdavi</i>	
Conductive Hydrogels in Biomedical Engineering: Current Status and Challenges	124
<i>Elham Amiraslani, Zahra Mohammadi</i>	
Innovative Biomimetic Skin Repair Strategies Utilizing Barium Titanate	127
<i>Hossein Norouzi Bazmin Abadi, Zahra Mohammadi</i>	
Metal-Organic Frameworks: A Promising Class of Materials for Next-Generation Antibacterial Drug Delivery Systems	130
<i>Shaghayegh Kohzadi, Zahra Mohammadi</i>	
HEALTH: Hyperbolic Embedding and Acoustic-based Learning for Topological Hierarchies in Parkinson's Disease	133
<i>Saghar Shafaati, S. Hossein Erfani</i>	
Coprime Sparse Ultrasound Arrays: A Hardware-Efficient Imaging Approach	139
<i>Mina Ezati, Vahid Amin Nili, Zahra Kavehvash</i>	
Injectability Enhancement and Optimization of a Biphasic Calcium Phosphate Bone Cement	147
<i>Sepehr Larijani, Mitra Asadi-Eydivand, Nabiollah Abolfathi, Mehran Solati-Hashjin</i>	
Network for Predicting Neoadjuvant Chemotherapy Response in Breast Cancer Patients	153
<i>Parisa Donyaei, Javad Haddadnia</i>	
GPU-Accelerated GRAPPA: A Fast Implementation using PyTorch for MRI Reconstruction	160
<i>Mehrdad Anvari-Fard, Mahdi Bazargani, Mohammad Javad Heidari, Hamid Soltanian-Zadeh</i>	

Multi-Transform Diagnostic Analysis Based on Gradient-Based Features for Breast Cancer Detection in Thermal Imaging	166
<i>Ainaz Daneshdoust, Sedigheh Ghofrani, Mahdi Eslami, Iman Ahanian</i>	
Enhancing Drug–Target Affinity Prediction with Non-Local Block Graph Neural Networks	173
<i>Reza Tahmasebi, Eghbal Mansoori, Armin Pishehvar, Abbas Mehrbaniyan</i>	
Generative Adversarial Networks: A Feasibility Study	182
<i>S. Hooman Hosseini-Zahraei, Ali Chaibakhsh</i>	
Microfluidic Generation of Core-Shell Breast Tumor Spheroids for Evaluating Dose-Dependent Responses to Quercetin	188
<i>Fatemeh Zarei, Mohammad Hashem Molayemat, Amir Shamloo, Mohammad Mehdi Sadeghian Khorasgani</i>	
Examination and Analysis of the Influence of Near-Infrared Light Absorption by Hair Melanin on fNIRS Signal	194
<i>Elmira Baghaeifar, Sina Shamekhi</i>	
Engineering Injectable Gelatin-Tyramine/Alginate tyramine Hydrogels for Bone Tissue Engineering: A Ratio-Dependent Study of Structure, Mechanics, and Biocompatibility	202
<i>Melika Mansouri Moghaddam, Soroush Ghofrani Beiragh, Elaheh Jooybar, Rana Imani</i>	
Multi-Modal Brain Tumor Diagnosis via Hybrid Vision Transformers and CNNs: A Deep Learning Approach	209
<i>Alireza Haghighatjoo, Fatemeh Noori, Peyman Afshari Bijarbaneh, Seyed Amirhossein Mousavi</i>	
A Review of the Impact of Visible Spectrum Electromagnetic Wavelengths on Cellular Behaviors	216
<i>Arsalan Heidarpناه, Hamid Keshvari, Mehrdad Saviz</i>	
Quantitative Mapping of Perivascular Spaces Across MRI Modalities Using Vesselness Filtering and Morphometric Analysis	225
<i>Razieh Salesi, Hamid Soltanian-Zadeh</i>	
Learning for Robust EEG-Based Person Identification	233
<i>Mahdi Tabatabaei, Mohammad Bagher Shamsollahi</i>	
Simulation and Evaluation of the Impact of Magnetic Source Geometry on Mechanical Stress and Magnetic Flux Distribution in Cancerous Tumors	241
<i>Alireza Heydari, Mahdi Halabian, Borhan Beigzadeh, Majid Siavashi</i>	
In-silico Molecular Investigation of Caulobacter Crescentus Bioadhesive Proteins	247
<i>Yeganeh Kayalha, Maryam Azimzadeh Irani</i>	
Parkinson's Disease Classification Using EEG and a Hybrid EEGNet-LSTM Architecture	256
<i>Pouya Taghipour Langrodi, Amirsadra Khodadadi, Ali Sadat Modaresi, Mohammad Ahadzadeh Mostafa Rostami, Sadegh Madadi</i>	
Classification of Delta Band Motor Imagery EEG Signals in SCI Patients using the Regularized Common Temporal Pattern Method	262
<i>Mahdi Babaei, Sorena Shadzinavaz, Sepideh Hajipour Sardouie</i>	
How Geometric Asymmetry Impacts Aortic Valve Bioprosthesis Performance - A Finite Element Analysis	270
<i>Reyhaneh Mosaferchi, Nasser Fatouraei</i>	

Analyzing Blood Glucose Levels with Near Infra-Red Spectroscopy and Chemometric Multivariate Methods	277
<i>Hadi Barati, Arian Mousavi Madani, Soheil Moradi, Mohammad Mohsen Ebrahimi Seyghalan Mehdi Fardmanesh</i>	
Super-Resolution Generative Adversarial Network for Photothermal Optical Coherence Tomography Signal Enhancement	283
<i>Amir Hossein Osooli, Mohammadhossein Salimi</i>	
At the Warehousing Workstation of Iran Tire Company	289
<i>Mahshad Nazari Jeirani, Amirhossein Mohammadzadeh, Seyedeh Shokouh Azam Mirdamadi Mohadeseh Sadat Shahangian, Navid Arjmand</i>	
In Silico Evaluation of PAMAM Dendrimers as Nanocarriers for Targeted Carmustine Delivery in Glioma Therapy	296
<i>Noora Shaerzadeh, Maryam Azimzadeh Irani, Yeganeh Abbasian Bajgiran</i>	
Design and Biomechanical Comparison of a Patient-Specific Anatomical Plate Versus Conventional Plate for Distal Humerus Fractures: A Finite Element Analysis	299
<i>Fahime Rezazade, Azadeh Ghouchani, Maryam Amoochi</i>	
Deep Learning Models for Epileptic Seizure Detection Using the CHB-MIT EEG Dataset	305
<i>Pouya Taghipour Langrodi, Amirsadra Khodadadi, Mahtab Dastranj, Golnaz Baghdadi</i>	
Numerical Investigation of the Effectiveness of Cryosurgery on a Liver Tumor	312
<i>Taha Samiazar, Mahkame Sharbatdar</i>	
Dynamics Modeling of Cardiac Electromechanical Intervals and Hysteresis Analysis	320
<i>Sina Asadi, Mohammad Bagher Shamsollahi</i>	
Two-Dimensional FSI Simulation of a Novel SMA-Integrated Bileaflet Mechanical Heart Valve with Comparative Hemodynamic Analysis	327
<i>Ashraf Zareei</i>	
Binary Discrete Emotion Detection with Peripheral and Fp1-Fp2 EEG Signals on PEEFS Dataset	334
<i>Fatemeh Shalchizadeh, Sina Shamekhi, Mahdi Jafari Asl</i>	
Viscoelastic Properties in Fixational Stability of Pedicle Screws in Uhwmpc Block: a Finite Element Study	339
<i>Ahmad Babazadeh Gh, Mohammadjavad Einafshar, Ata Hashemi</i>	
Assessing Gait Complexity and Adaptability in Children with Cerebral Palsy	345
<i>Mahshad Nazeri Jeirani, Yasamin Azmi, Mahya Shojaeefard, Masoud Yousefi, Farzam Farahmand</i>	
Inverse Dynamics Analysis of the Crutch-Assisted Gait with a Lower-Limb Robotic Exoskeleton	351
<i>Negin Nasirian, Milad Hosseini, Reza Norouzzadeh, Saeed Behzadipour</i>	
Modulation of EEG Connectivity by Insular Cortex Stimulation: Frequency-Specific Effects and Interoceptive Implications	358
<i>Ramin Aghili Karampour, Alireza Fallahi, Reza Kazemi</i>	
Neural Correlates of Reward and Punishment Processing During Gambling-Based Decision-Making: A Simultaneous EEG-fMRI Study	365
<i>Elias Ebrahimzadeh, Amin Mohammad Mohammadi, Ahmad Hammoud, Lila Rajabion Hamid Soltanian-Zadeh</i>	

Multi-Objective Optimization of the Impeller of a Mini Blood Pump: Balancing Outlet Pressure and Scalar Shear Stress	373
<i>Reza Sahebi-Kuzeh Kanan, Hanieh Niroomand-Oscuii, Habib Badri Ghavifekr, Farzan Ghalichi</i>	
Electrospun Chitosan-Gelatin/ZIF-8 Nanofibers Scaffolds for Enhanced Wound Healing	381
<i>Maryam Nosrati Hashi, Maryam Tajabadi, Fateme Mirzajani, Alireza Khavandi</i>	
System Using 3D-Hydrodynamic Focusing	391
<i>Zohre Nazemi Dehkordi, Ali Abouei Mehrizi</i>	
Region-Specific Eeg Channel-Based Emotion Detection Using Bi-Directional Deep Neural Networks	399
<i>Mahdi Jafari Asl, Sina Shamekhi, Fatemeh Shalchizadeh</i>	
TransFuse++: A Hybrid CNN-Transformer Architecture with Cross-Attention, Temporal Modeling, and Uncertainty Estimation for Medical Image Segmentation	405
<i>Masoud Noroozi, Sayna Jamaati, Hamed Aghapanah, Ali Saeedi Rad, Mahsa Asadi Anar, Ali Darzi Mahla Shokouhfah, Helia Sadat Kazemi, Mohammadreza Ghahari, Mohammad Saeed Soleimani Meigoli Jafar Majidpour, Hossein Arabi, Alireza Karimian</i>	
Mapping Epileptic Networks: IED-Triggered Hemodynamic Changes Identified via Simultaneous EEG-fMRI Recordings	413
<i>Elias Ebrahimzadeh, Hora Amoozegar, Mostafa Asgarinejad, Melika Akbarimehr, Hamid Soltanian-Zadeh</i>	
Alterations in Muscle Coordination During Different Gait Phases Following Knee Injury	421
<i>Shaghayegh Hassanzadeh Khanmiri, Alireza Hashemi Oskouei, Peyvand Ghaderyan</i>	
FSI Modeling of Osteocyte Mechanotransduction Under Dynamic Loading	425
<i>Zahra Rahmani Samani, Hanieh Niroomand-Oscuii, Mohammad Niroobakhsh, Ehsan Alizad Farokhi</i>	
Simulation of Mechanical Property Changes in Biodegradable Scaffolds Under Various Loading Conditions	433
<i>Elnaz Abedini, Mehdi Mehri</i>	
Predictive Modeling of Astronaut Skin Microbiome Changes Using Machine Learning on NASA Multi-Omics Data	439
<i>Mahdi Ansari, Abolfazl Hajihashemi, Mohammad Rafienia</i>	
A Survey on Cardiac MRI Segmentation: from Classical Methods to State-of-the-Art Deep Learning	445
<i>Hamed Aghapanah, Reza Saboori Amleshi, Ali Saeedi Rad, Masood Noruzi</i>	
Accurate Brain Vessel Segmentation in T1-Weighted MRI Based on UNETR: Improving Neurosurgical Planning	452
<i>Fatemeh Gholizadeh, Mahdiyeh Rahmani, Ahmad Pour-Rashidi, Ebrahim Najafzadeh, Parastoo Farnia Alireza Ahmadian</i>	
Using Titanium, CFR-PEEK and CoCr Endplates with UHMWPE-GUR1020 75kGy RM Core	457
<i>Amirali Kashani, Siavash Kazemirad</i>	
Multiclass ICU Length-of-Stay Prediction Using Tree-Based Machine Learning Techniques	465
<i>Mahyar Mohammadian, Somayeh Afrasiabi</i>	
Exponential Sliding Mode Controller to Track the Human Upper Limb During Topspin Forehand in Table Tennis	472
<i>Erfan Sedaghat, Seyyed Arash Haghpahan</i>	

Corrective Insoles Enhance Center of Mass Stability During Stair Descent in Individuals with Leg Length Discrepancy	479
<i>Kasra Alborzi, Alireza Hashemi Oskouei, Pouya Mansouri, Seyed Mehran Ayati Najafabadi</i>	
Comparative Analysis of Time-Frequency Representations for Pediatric Respiratory Sound Classification Using Deep Learning	483
<i>Ghazaleh Shiri, Hanieh Bahrami, Alireza Fallahi</i>	
Continuous Non-Invasive Blood Pressure Estimation Based on Impedance Plethysmography Measurements	491
<i>Fatemeh Shokri, Masoomeh Ashoorirad, Rasool Baghbani</i>	
Non-Invasive Detection of Atherosclerosis and Aneurysm via Electrical Impedance Spectroscopy: A Finite Element Simulation Study	500
<i>Shaghayegh Shokri, Rasool Baghbani, Masoomeh Ashoorirad</i>	
Tibial Fractures Using FEA and a Novel Fixation Index	506
<i>Amirhossein Karami, Mohadese Rajaeirad, Mohamed Elfekky, Nima Jamshidi</i>	
Skin Thermomechanical Modeling: Assessing the Influence of Water and Ambient Air	513
<i>Pezhman Namashiri, Akbar Allahverdizadeh, Fatemeh Khodadoost, Farid Vakili-Tahami</i>	
Electrochemical Biosensors Based on Polyaniline Nanostructures: Advances, Challenges, and Outlook for Smart Systems	520
<i>Nasim Kharazminezhad, Ramez Pourahmad</i>	
The Regeneration of Bone and Cartilage Tissues	527
<i>Behnaz Alijani, Niloufar Kazemi</i>	
During Sequential Hand Movements Using Neurophysiological Analyses of EEG Signals	532
<i>Elnaz Eilbeigi</i>	
Engineerin: Optimal Control and Emergence of Kinematic Synergies in Underactuated Biped Locomotion	539
<i>Mahdi Alipoor, Masoud Yousefi, Farzam Farahmand</i>	
Lightweight 3D U-Net for Robust Liver Segmentation in Multi-Institutional CT Datasets	546
<i>Seyyed Mohammad Hosseini, Faeze Salahshour, Ahmadreza Sebzari, Masoomeh Safaei, Hossein Ghadiri</i>	
Playmaking: A Task-fMRI Study	551
<i>Mohammad Rezaei, Mahdi Siami, Asghar Zarei, Alireza Talesh Jafadideh</i>	
Heel-Raising Motion Using OpenSim-MATLAB	560
<i>Mohammad-Reza Sayyed Noorani, Roghaiyeh Ahmadian Sarand, Nakisa Farshforoush</i>	
Nanocomposite Hydrogel with Conductivity and Self-Healing Property for Health Monitoring	566
<i>Nahid Salimiyan, Roya Sedghi, Sepehr Salighehdar</i>	
Cylindrical Diffusing Optical Fibers for Prostate Cancer Focal Laser Ablation	570
<i>Sajjad Saadati Rad, Alireza Mehridehnavi, Seyed Mojtaba Karbalaee</i>	
Histopathology Image Classification: Performance, Efficiency, and Adversarial Robustness	577
<i>Moein Akbari Shahpar, Mohsen Akbari-Shahpar</i>	

For Knee Health Diagnosis Using Machine Learning	582
<i>Mohammad-Reza Sayyed Noorani, Zahra Mahmoudi Anzabi, Sara Sharifi</i>	
Depression and Psychosis Using EEG-Based Machine Learning Models	588
<i>Vahid Asayesh, Mehdi Dehghani, Majid Torabi, Sepideh Akhtari-Khosroshahi</i>	
<i>Maedeh Akhtari-Khosroshahi, Sebelan Danishvar</i>	
Semg-Based Knee Torque Estimation	596
<i>Mohammad-Reza Sayyed Noorani, Mariya A. Vaziry, Seyed Alireza MirTajeddini</i>	
Role of Protective Pads in Mandibular Biomechanics During Frontal Impact	602
<i>Hosna Olfati, Ata Hashemi</i>	
Using Opensim-Matlab Interface	608
<i>Mohammad-Reza Sayyed Noorani, Hesam Ghasemi Barghi, Shaghayegh Hassanzadeh Khanmiri</i>	
Enhancing Dental Disease Detection: Leveraging Swin Transformer and DenseNet with AttentionGuided Fusion in Dental Panoramic Imaging	614
<i>Mahdieh Dehghani, Reza Aghaeizadeh Zoroofi</i>	
Comparative Evaluation of Feature Selection Techniques for Six-Month Mortality Prediction in Heart Failure Patients	622
<i>Parsa Haghighatgoo, Somayeh Afrasiabi</i>	
Multi-Frame Coronary Vessel Segmentation in X-Ray Angiography	629
<i>Pouya Babaei, Farshad Almasganj</i>	
Benchmarking nnU-Net vs. Custom 3D U-Net for Kidney Tumor Segmentation: A Controlled Study on KiTS19 Dataset	636
<i>Ariya Soleimany, Masoud Noroozi, Mohammad Saber Azimi, Alireza Karimian, Jafar Majidpour</i>	
<i>Hossein Arabi</i>	
Postural Responses to Mediolateral Rotations: Contributions of Surface, Vision, and Cognitive Load	643
<i>Haniyeh Zahra Budaqi, Ali Mojibi, Saeed Behzadipour</i>	
Patient-Specific TMJ Implants: A Finite Element Study on Placement and Material Effects	647
<i>Aryana Tavakoulnia, Mohadese Rajaeirad, Nima Jamshidi, Sandipan Roy</i>	
Investigating the Self-Optimizing Nnu-Netv2 for Kidney Tumor Segmentation: Application to the Kits23 Dataset	653
<i>Sanam Doostinia, Masoud Noroozi, Mohammad Saber Azimi, Jafar Majidpour, Hossein Arabi</i>	
Finite Element Study on Bone Quality and Boundary Conditions	659
<i>Fatima Wayzani, Mohammadjavad Matin Einafshar, Ata Hashemi</i>	
Predicting Sleep Efficiency and Apnea Index Using ECG-Derived and Sleep Quality Features: A Machine Learning Approach	666
<i>Mahla Khodaverdi, Raheleh Davoodi</i>	
Optimization Dynamic Stability and Energy Efficiency in Human-Like Bipedal Robot Over a Full Gait Cycle	673
<i>Mahdi Sadeghi, Mostafa Rostami, Soroush Sadeghnezhad</i>	

The Impact of an Interactive Rehabilitation Protocol on Reorganization of Brain Networks in Children with Cerebral Palsy: A Pilot Study	679
<i>Shahed Salehzehi, Mahdi Mollaei, Parisa Hosseini, Ali koohian Mohammad Abadi</i>	
<i>Mohammad Ebrahim Hashemi, Hamid Reza Kobravi, Narges Hashemi, Mehran Beiraghi Toosi</i>	
<i>Javad Akhondian</i>	
Biomechanical Analysis and Comparison of Lumbar Spine Fixation: A Finite Element Analysis	687
<i>Nima Moazed, Mohammad HaghPanahi</i>	
Recovery of Hand Motor Function in Children with Hemiparetic Cerebral Palsy Using an Interactive Computer Game Combined with Mechanoreceptor Stimulation: A Pilot Study	691
<i>Mobina Ramezani, Shahed Salehzehi, Parisa Hosseini, Zahra Alizadeh Sarborj, Ghzal Mohammadzadeh</i>	
<i>Hamid Reza Kobravi, Narges Hashemi, Mehran Beiraghi Toosi, Javad Akhondian</i>	
Investigating Real-Time sEMG-Based Approaches for Grasping Recognition	698
<i>Monire Ameri Haftador, Ali Akbari, Mehran Jahed</i>	
Comparative Assessment of U-Net and Pix2Pix for Applying Direct Attenuation Correction in the Image Domain in $\{ \}^{68} \text{Ga}$ -PSMA PET/CT Imaging	705
<i>Negin Hamidiyan, Hadi Taleshi Ahangari, Pardis Ghafarian, Hossein Arabi, Mohammad Reza Ay</i>	
A Survey Over Deep Learning Methods for Early Detection in Mammogram Images	711
<i>Zeinab Shirkool, Mohammad Ali Tabarzad, Reza Boostani</i>	
Improving Generalization in MRI-Based Deep Learning Models for Total Knee Replacement Prediction	725
<i>Ehsan Karami, Hamid Soltanian-Zadeh</i>	
A Computational Model of Phase-Delayed Balanced Biphasic Deep Brain Stimulation for Essential Tremor in a Cerebellar-Basal Ganglia-Thalamocortical Network	733
<i>Shabnam Andalibi Miandoab, Nazlar Ghasemzadeh</i>	
Experimental Acoustic and Thermal Behavior of HIFU	740
<i>Maryam Fazeli, Rémi Souchon, Cyril Lafon, Mehran Jahed</i>	
Carbon Nanotube Mediated Hyperthermia for Cancer Therapy	744
<i>B. Zeinali, A. Mojra</i>	
Neurofeedback in Brain Functional Networks	751
<i>Kasra Momeni, Gholam-Ali Hossein-Zadeh</i>	
Benchmarking Class Activation Map Methods for Explainable Brain Hemorrhage Classification on Hemorica Dataset	758
<i>Zahra Rafati, Mohammad Hoseyni, Javad Khoramdel, Amirhossein Nikoofard</i>	
Towards Accurate Multimodal Deformable Image Registration via Image Translation and Weak Supervision	766
<i>Maryam Nasr, Mohammadreza Yazdchi, Mohsen Safdari</i>	
Enhancing Type 2 Diabetes Diagnosis with Evolutionary Algorithms and Machine Learning	774
<i>Parisa Rezaei, Mohsen Saffar, Hamid Reza Naji, Mohammad Mehdi Faghih, Rasoul Nouriazar</i>	
A Real-Time Integrated Framework for Face Detection, Gender, and Emotion Recognition Using Convolutional Neural Networks	780
<i>Mostafa Asgarinejad, Elias Ebrahimzadeh, Vida Mirabolfathi, Lila Rajabion, Hamid Soltanian-Zadeh</i>	

Anastomosis Angle Effects in Beating-Heart Coronary Bypass Grafts: A Fluid—Structure Interaction Study	788
<i>Mohammad Saleh Kazemi, Nasser Fatourae, Aisa Rassoli</i>	
Phase-Amplitude Coupling of Event-Related Potentials During Vcpt Task in Dyslexic Subjects	795
<i>Mahdi Mollaei, Maryam Mohebbi, Reza Rostami</i>	
Distinct Neurophysiological and Psychological Effects of TVNS and Neurofeedback: Insights for EEG-Guided Neuromodulation	800
<i>Seyedeh Zeinab Molaeizadeh, Aitor Arizeta Galan</i>	
Design and Development of a Focal Vibrating Massager with Wide Frequency Range and Real-Time Control	806
<i>Ali Bakhshian Talkhoncheg, Mohammad Yousefi, Saeid Niknami, Borhan Beigzadeh</i>	
Magnetic Stimulation in Treatment of Amyotrophic Lateral Sclerosis by Designing New Protocol and Using Machine Learning	813
<i>Ali Abedi, Gholamreza Moradi, Reza Sarraf Shirazi, Mehran Jahed</i>	
Arm Model for Elbow Motor Control	822
<i>Mohammad-Reza Sayyed Noorani, Abbas Jafarpour Mahalleh, Kimiya Khojand</i>	
In Silico Evaluation of a High-Porosity Titanium Scaffold in a Bioreactor for Bone Tissue Engineering Applications: A Fluid Transport Study	828
<i>Elnaz Khorasani, Setareh Garazhian, Bahman Vahidi</i>	
Enhancing Population Diversity and Optimization Efficiency in Cat Swarm Optimization Using a Fuzzy Controller	835
<i>Seyedeh Maryam Rezaei, Reza Boostani</i>	
Deep Learning and Fuzzy Entropy in Parkinson's Diagnosis: A Framework Based on Task-Based EEG Signals	842
<i>Amir Hossein Tajarrod, Tania Hossein Khani, Asghar Zarei, Mousa Shamsi</i>	
Deep Learning and Fuzzy Entropy in Parkinson's Diagnosis: A Framework Based on Task-Based EEG Signals	851
<i>Amir Hossein Tajarrod, Tania Hossein Khani, Asghar Zarei, Mousa Shamsi</i>	
Excessive and Variable Center of Mass Motion Characterizes Gait Instability in Elderly Women with Obese Knee Osteoarthritis	860
<i>Diba Chegini, Farhad Tabatabai Ghomsheh, Behzad Yasrebi, Aliakbar Pahlevanian, Siamak Haghipour</i>	
Based PPG Using Morphological Features	867
<i>Arian Mesforoosh-M., Yeganeh Binafar, Mohammad-R. Akbarzadeh-T.</i>	
Biomedical Applications of Pectin Nanomaterials: Progress and Perspectives	874
<i>Maryam Rajabzadeh-Khosroshahi, Ali Baradar Khoshferat, Mehdi Salami-Kalajahi</i>	
Hierarchical STFT Based Transformer for Causality Discovery	881
<i>Sahar Semsarha, Mohammad Bagher Shamsollahi</i>	
Advancing Autoencoders and Non-Local Means with Particle Swarm Optimization	888
<i>Shirin Ashtari Tondashti, Navid Adib, Mehran Alyali, Mahdis Yaghoubi, Seyed Kamaledin Setarehdan</i>	

Properties of Polyacrylamide Hydrogel Using Molecular Dynamics Simulation	895
<i>Narges Karimzadeh Dehkordi</i>	
Cancer-Associated Actin Mutations Enhance Cofilin Binding Affinity: Insights from Steered Molecular Dynamics Simulations	899
<i>Danial Sedighpour, Farzan Ghalichi, Iman Zoljanahi Oskui</i>	
Added Value of Synthetic T1/T2-Weighted MR Images in the Segmentation and Staging of Meningioma	903
<i>Masoud Noroozi, Sayna Jamaati, Peyman Sharifian, Mahsa Karbasi, Esmaeil Gharepapagh Alireza Karimian, Hossein Arabi, Sahar Rezaei</i>	
Implementation of Anisotropic Hyperelastic Materials in NL-SBFEM Framework: The HGO Model	910
<i>Seyed Sadjad Abedi-Shahri, Farzan Ghalichi, Iman Zoljanahi Oskui</i>	
Phase-Specific Analysis of Arm–Leg Load Sharing in Exoskeleton-Assisted Gait Using Biomechanical Indices	916
<i>Milad Hosseini, Negin Nasirian, Saeed Behzadipour</i>	
The Technological Pillars of Smart Hospitals: A 2022-2025 Review of IoMT, Wearables/RTLS/Rfid, Robotics (IORT), and VR/AR	923
<i>Ali Karami-Nejad, Naeme Kadkhodai Eliaderani, Sahar Jafari, Mahdi Jafari Asl</i>	
Impact of Dynamic and Static Sports on Growth and Anthropometric Characteristics (Height, Weight, BMI) in Children and Adolescents	930
<i>Amin Partovi Fard, Mahmoodreza Azghani, Sadra Jalali, Samin Asghari</i>	
Effects of Athletic Status on Plantar Pressure Distribution and Biomechanical Foot Health in Children and Adolescents	937
<i>Amin Partovi Fard, Mahmoodreza Azghani, Sadra Jalali, Elham Hazrati, Samin Asghari</i>	
Dynamic Modeling of a Cable-Driven Series Elastic Upper Extremity Exoskeleton for Post-Stroke Rehabilitation	949
<i>Ali Selk Ghafari, Omid Kalantari</i>	
Robotic-Assisted Early Rehabilitation Post Total Knee Arthroplasty: An Experimental Investigation	956
<i>Raed Abdulameer Mahmood Alalvani, Ali Selk Ghafari</i>	
Acoustofluidic Separation of Circulating Tumor Cells from Semen via Induced Microvortices	964
<i>Ashkan Behrouzi, Sheyda Nadi, Zahra Saeidpour, Majid Badieirostami</i>	
Neural Encoding of Outcome Magnitude: Evidence from fMRI	968
<i>Amin Mohammad Mohammadi, Shaghayegh Mahmoudi, Narjes Amin, Farid Hosseinzadeh Elias Ebrahimzadeh, Hamid Soltanian-Zadeh</i>	
GelMA Synthesis and Experimental Challenges	975
<i>Mohammad Matin Shirzad, Zahra Mohammadi, Shaghayegh Kohzadi</i>	
EEG-Based Classification of Schizophrenia and Healthy Controls Subjects Using Statistical and Nonlinear Features with Emphasis on Fuzzy Entropy	978
<i>Mahdiyeh Tofighi Milani, Sina Shamekhi, Asghar Zarei</i>	
An Automatic Pipeline for Simultaneous EEG-fMRI Artifact-removal (SEFA)	985
<i>Farid Hosseinzadeh, Amin Mohammad Mohammadi, Mehrdad Anvarifard, Sasan Keshavarz Elias Ebrahimzadeh, Hamid Soltanian-Zadeh</i>	

Design and Fabrication of a Cost-Effective Dry Electrode for Electroencephalography (EEG) Signal Acquisition	993
<i>Sobhan Sheykhivand, Nastaran Khaleghi, Lida Zareh Lahijan</i>	
Multi-Level Driver Fatigue Detection Using EEG Signals with CNN—LSTM Models in a Compressed Sensing Framework	1000
<i>Sobhan Sheykhivand, Nastaran Khaleghi</i>	
Design and Evaluation of a Low-Cost Dry Electrode for Physiological Signal Acquisition	1007
<i>Sobhan Sheykhivand, Nastaran Khaleghi, Maryam Khoshkhabar</i>	
Microfluidic Flow-Focusing Systems for Alginate Microcapsule Preparation: Tuning Droplet Size and Frequency	1013
<i>Meisam Akbari Laleh, Yasaman Pahlevanzadeh, Mina Shafiei, Javad Rahbar Sharouzi</i>	
Hybrid Active Learning—Driven Subset Dataset Selection Enables Near-Optimal Cardiac X-Ray Segmentation with Less Training Data	1019
<i>Sayna Jamaati, Masoud Noroozi, Hossein Arabi, Alireza Karimian</i>	
And DANN Feature Fusion for EEG Emotion Classification	1025
<i>Zahra Mahdinezhad, Raheleh Davoodi</i>	
Limb Forces Using Machine Learning Techniques	1032
<i>Mohammad Reza Seidgar, Hadi Farahani, Mostafa Rostami, Elham Naziri, Sadegh Madadi</i>	
Robust Binary Differentiation of All Vs. Aml Using Deep Graph Convolutions	1048
<i>Mahsan Rahmani, Saeed Meshgini, Reza Afrouzian</i>	
Classification of Excitatory and Inhibitory Neurons in Animal Data Using Machine Learning and CNN Models	1054
<i>Mahdi Mollaei, Amirhossein Mashghdoust, Ali Khadem</i>	
Efficient Hydroporation in Immunotherapy Applications	1059
<i>Soheil Mahdavi, Zohre Nazemi Dehkordi, Ali Abouei Mehrizi</i>	
Development of Folic Acid-Conjugated Iron Oxide Nanoparticles Loaded with Doxorubicin via Arc Discharge: A Novel Approach for Synergistic Photothermal-Chemotherapy of Cancer Using Bacterial Cellulose-Polyvinyl Alcohol Hydrogel	1066
<i>Saeid Orangi, Soodabeh Davaran</i>	
Feature-Conditioned WGAN for Generating Alzheimer's EEG: Enabling GAN-Based Synthesis Under Data Scarcity	1072
<i>Parsa Bahramsari, Alireza Taheri</i>	
Deep Learning Approaches for Alzheimer's Disease Diagnosis: a Comprehensive Review	1079
<i>Mahdi Jafari Asl, Saba Haji Molla Rabie</i>	
Late Fusion-Based Deep Learning for Breast Cancer Classification in Mammography	1085
<i>Mahdi baharloo, Ata Jodeiri</i>	
Fused Deposition Modeling in Bone Tissue Engineering: A Comprehensive Review	1090
<i>Parsa Doagui, Shima Mirzaie Parsa</i>	

Topology Optimization for Optimal Design of Human Tibial Fixation Plates Toward Improving Biomechanical Compatibility	1096
<i>Aida Ahmadi, Taha Goudarzi</i>	
Force-Length Behavior in Dynamic Exercise	1103
<i>Erfan Farahani, Manizheh Zakeri, Mohammad-Reza Sayyed Noorani</i>	
Swin-Unet on Knee X-ray Images	1107
<i>Ali Kazemi, Abolfazl Zamanirad, Soodabeh Esfandiary, Ebrahim Najafzadeh, Mohammad Hossein Nabian Parastoo Farnia, Alireza Ahmadian</i>	
Profiling with Deep Spatiotemporal Learning for Early Response Assessment and Tumor Stage Prediction in Oncolytic Virotherapy	1113
<i>Alireza Haghighatjoo, Fatemeh Noori, Peyman Afshari Bijarbaneh, Seyed Amirhossein Mousavi</i>	
Addressing Class Imbalance Using Difficulty-based Oversampling with Variance Control	1119
<i>Zahra Asgharzadeh Bonab, Sina Shamekhi</i>	
2D Residual U-Net for Accurate Lumbar Vertebrae Segmentation in MRI-Based Low Back Pain Diagnosis using the SPIDER Dataset	1128
<i>Armita Rahimi Borgi, Abdollah Zohrabi, Ali Kazemi, Mostafa Abdolghaffar, Ramin Kordi, Parastoo Farnia Alireza Ahmadian</i>	
Flow Estimation in 2D Simplified Human Right Ventricular Geometry	1134
<i>Mohammadmahdi Sekhavatpisheh, Nasser Fatouraei</i>	
Deep Learning-Based Segmentation of Human Sperm Heads Using Yolov8 and Sam	1142
<i>Hadis Aligoo Zanjany, Maryam Pashaiasl, Ata Jodeiri</i>	
Graph Attention Networks for EEG-Based Emotion Recognition: Focus on Channel-Level Attention	1148
<i>Akbar Asgharzadeh-Bonab, Hamid Bigdeli, Mohammad Javad Heidari</i>	
Using Custom IMU and Deep Learning Techniques	1154
<i>Mohammad Khalf Nilsaz, Elham Shirzad, Ali Fahim</i>	
Optimization of the Mechanical Properties of PVA/Gelatin Hydrogel Reinforced with Polycaprolactone Nanofibers Using the Finite Element Method	1161
<i>Mohadeseh Nazouri, Iman Zoljanahi Oskui, Hadi Taghizadeh</i>	
Patch-Based Detection of Proximal Caries on Bitewing Radiographs	1167
<i>Sana Esmaeili, Parnian Alizadeh Oskoei, Tahmineh Razi, Asiyeh Dadghar, Krasa Rahimpour, Ata Jodeiri</i>	
In Synthetic and Natural Bone: A Comparative Study	1173
<i>Mahdi Farrokhi Kashtiban, Gholamreza Rouhi</i>	
Accelerated Diffusion-Weighted Imaging via Diffusion Gradient Alternation in Radial k-Space Sampling	1178
<i>Fateme Hoseini Rashkani, Abbas Nasiraei Moghaddam</i>	
EEG Graph Construction: A Comparative Analysis for Classification Application	1184
<i>Kiana Kalantari, Mohammad Bagher Shamsollahi</i>	
Hierarchical Task-Structured GNN Meta-Learning for Few-Shot EEG Motor Imagery Decoding	1190
<i>Mohammad Armin Dehghan, Mohammad Mohammadianbisheh, Mohammad Bagher Shamsollahi</i>	

Magnetic Scaffold Based on Alginate/Chitosan and Zero-Valent Iron for Hyperthermia	1201
<i>Mohammad Jafari Fashtami, Bahareh Khalilivavdareh, Delaram Dezfoulan, Maryam Tajabadi</i>	
Semi-Automatic Multi-Stage Artifact Removal in EEG During Subthreshold GVS: A Machine Learning Approach for Neuromodulation Studies	1208
<i>Mahdi Babaei, Sepideh Hajipour Sardouie, Martin Keung, Varsha Sreenivasan, Hanaa Diab Maryam S. Mirian, Martin J. McKeown</i>	
Biomechanical Contrast Between Native and Decellularized Triple-Negative Breast Tumors in Mice	1215
<i>Mohammad Javad Farjam, Saman Asadi, Ashkan Azimzadeh, Saeid Amanpour AbdolMohammad Kajbafzadeh, Mohammad Ali Nazari</i>	
Deep Neural Network-Based Adaptive Global Logarithmic Sliding Mode Control for Lower-Limb Rehabilitation Exoskeletons	1222
<i>Masoud Shirzadeh, Ghoncheh Zand, Samim Kamyab</i>	
Diagnostic and Classification Analysis of Retinal Diseases Using OCT Imaging: Focus on Diabetic Retinopathy and Overlap with Other Retinal Disorders	1228
<i>Fatemeh Reyhani, Yashar Amizadeh, Ata Jodeiri</i>	
Dynamic Cross-Frequency Coupling Reveals Taskdependent Neural Engagement During Varying Cognitive Demands	1236
<i>Seyed Saman Sajadi, Babak Fazli, Fateme Karbasi, Ehsan Garosi, Milad Jalilian, Soheila Hosseinzadeh Amir Homayoun Jafari, Seyed Abolfazl Zakerian</i>	
Gravity-Directed Growth of ZnO Nanorods: Morphological Control via Chemical Bath Deposition	1244
<i>Masoud Ghashami, Melisa Daryayi, Mohammad Abdollahad</i>	
Phase-Amplitude Coupling Reflects Functional Cortical Engagement During Dynamic and Static Motor Tasks	1248
<i>Seyed Saman Sajadi, Ahmadreza Keihani, Fateme Karbasi, Mohammad Amin Fathollahi, Shahriar Nafissi Erfan Azizi, Amir Homayoun Jafari</i>	
Inverse Suspension Polymerization for Novel Drug Delivery Systems	1257
<i>Borhan Oghbaei Bonab, Mohammad Ashraf, Sahar Enayati, Alireza Mahjub</i>	
Gait Retraining of Musculoskeletal Patients Using Deep Learning Techniques	1261
<i>Kourosh Alimadadi, Masoud Shariat Panahi, Morad Karimpour, Hadi Ghattan Kashani</i>	
Predictive Biomarkers	1266
<i>Sayed Reza Ramezani, Afsaneh Mojra</i>	
Tomography Versus Conventional Pulse-Echo Technique	1272
<i>Elnaz Rostami Siahpoush, Haniye Fathi, Zahra Kavehvasht</i>	
Optimization of an Integrated Filter Photometric System and a Centrifugal Microfluidic System for Biochemical Analysis	1279
<i>Bahareh Mohammadi Jobani, Amin Dehghan, Zahra Shahsavari, Esmail Pishbin</i>	
EJES: A Diverse Estimator Bank Framework for High-Resolution EEG/MEG Source Localization	1285
<i>Reza Khajehsarvi, Sayed Mahmoud Sakhaei, Sadegh Jamshidpour</i>	
Comparative Hemodynamic Analysis of Bicuspid and Tricuspid Aortic Valves Through CFD Simulation	1292
<i>Taha Samiazar, Mouoode Allahyari, Reyhaneh Mosaferchi, Julio Garcia Flores, Nasser Fatouraee</i>	

Personalized EEG Source Estimation in a Shape Drawing Task	1301
<i>Zakieh Hassanzadeh, Melisa Daryayi, Navid Entezari, Fariba Bahrami</i>	
an EEG Study	1306
<i>Nasrin Dehghani, Negin Joghataei, Zahra Ghanbari, Mohammad Hassan Moradi</i>	
A Novel AR-Based Kalman Filtering Framework for ECG Enhancement	1312
<i>Hamed Danandeh Hesar</i>	
A Combined Time-Frequency and Common Spatial-Spectral Pattern Approach for EEG-Based Motor Imagery Classification	1319
<i>Reza Nejati, Hamed Danandeh Hesar</i>	
Chondrogenesis and Regulating Inflammatory Gene Expression	1327
<i>Parisa Madani, Sara Derhanbakhsh, Nasrin Salehi, Farzaneh Safshekan, Javad Mohammadi Shahin Bonakdar</i>	
Comparative Numerical Analysis of Spiral Geometries for Passive Particle Separation in Microfluidic Devices	1338
<i>Yunes Chakeralhoseini, Mohammad Mahdi Tekiyeh, Mahdi Moghimi Zand</i>	
Programmable Flow Control in Rotating Microfluidic Systems Using Elastic Patch Valves	1347
<i>Zohreh Mohammadizadeh, Amin Dehghan, Esmail Pishbin, Mahdi Navidbakhsh</i>	
Perfluorocarbon-Based Oxygenation Systems: From Foundational Principles to Revolutionary Applications in Cancer Therapy and Tissue Engineering	1353
<i>Gity Mirzaei, Zeinab Mazlumi, Ali Baradar Khoshfetrat</i>	
Modified Biodegradable Magnesium Alloy Coated with Chitosan-Graphene Oxide	1364
<i>Seyed Alireza Ensaniat, Ali Safari, Farid Naeimi, Hamid Reza Bakhsheshi-Rad, Monireh Ganjali</i>	
Induced Pluripotent Stem Cells - Derived Dopaminergic Neuron Transplantation for Parkinson's Disease: A Brief Review of Recent Advances	1372
<i>Atena Parsaeian, Peyvand Naserisalehabad, Najmeh Najmoddin</i>	
Engineerin: Alterations of Brain Activation Maps in Adults with ADHD During Risk-Related Decision-Making: Evidence from the Balloon Analogue Risk Task	1383
<i>Bahar Kermani, Mahdi Mirzaee Barzegar, Alireza Shirazinodeh</i>	
Analysis of Blood Report Images Using General-Purpose Vision-Language Models	1390
<i>Nadia Bakhsheshi, Hamid Beigy</i>	
Comparative Evaluation of Deep Learning Architectures for Static American Sign Language Recognition	1394
<i>Shamim Najafi, Sedigheh Dehghani</i>	
For Accurate Prediction of Hand Joint Angles From Seng Signals	1402
<i>Anita Sadat Sadati Rostami, Alireza Nazari, Mohammad Reza Nayeri</i>	
An AI-Assisted Approach to Patient-Specific 3D Modeling and Stress Analysis of the Temporomandibular Joint from CBCT Images	1408
<i>Mohammad Akhlghi, Masoud Shariat Panahi, Sina Salehpour, Morad Karimpour, Hadi Ghatan Kashani</i>	

Development of a Spiral Microfluidic Platform for Predicting Reduced Mechanical Damage in Oocyte Denudation	1414
<i>Ehsan Nabati, Maryam Saadatmand</i>	
Effective Connectivity Alterations within the Cortico–Basal Ganglia Circuit Associated with Motor Skill Learning	1421
<i>Mohammad Rezaei, Alireza Talesh Jafadideh, Fariba Bahrani, Shahzad Tahmasebi Boroujeni</i>	
Mental Workload Classification Using Bidirectional LSTM Networks with Multi-Feature Fusion	1430
<i>Fatemeh Farokhshad, Sepideh Bahri Hampa, AmirHesam Ghasri, Sara Bagherzadeh</i>	
Algorithm for EEG—Based Sleep—Wake Classification Toward Sleep Apnea Detection	1437
<i>Pargol Sharifi, Mohammad Fakharzadeh</i>	
Proposed Amniotic Membrane/Alginate Dialdehyde Based Injectable Hydrogel as a Biofunctional Scaffold for Soft Tissue Engineering	1447
<i>Yasaman Pahlavanzadeh, Yousef Mohammadi, Maryam Saadatmand</i>	
Curcumin-Loaded Carboxymethyl Cellulose/Polyvinyl Alcohol Smart Wound Dressing: A Biosensor Approach for pH-Responsive Monitoring and Healing	1455
<i>Saeid Orangi, Soodabeh Davaran</i>	
Graph Convolutional Network–Based Surrogate Modeling for MRI-EEG Connectivity Analysis	1461
<i>Arshia Rezaei, Bahareh Abbaszadeh</i>	
Shape Memory Polymer-Based Scaffolds for Bone Tissue Engineering	1467
<i>Farzad Fereidani Mohammadi, Zahra Mohammadi</i>	
Hemostatic Clips: Stress Distribution and Hinge Geometry Optimization	1470
<i>Parastoo Kamali, Hadi Taghizadeh</i>	
Natural Language Processing and Speech Processing Integration: Toward a Point-of-Care Framework for Early Detection of Alzheimer's Disease	1476
<i>Aslan Modir, Fatemeh Shalchizadeh, Armin Ghasimi, Sina Shamekhi</i>	
Impact of Impeller Blade Number on the Hemodynamic Performance of Specially Designed Mini VAD	1484
<i>Nasser Alizadeh, Hanieh Niroomand-Oscuii, Farzan Ghalichi</i>	