2022 International Symposium on Multidisciplinary Studies and Innovative Technologies (ISMSIT 2022)

Ankara, Turkey 20-22 October 2022

Pages 1-539



IEEE Catalog Number: ISBN:

CFP22Q88-POD 978-1-6654-7014-8

Copyright © 2022 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:
 CFP22Q88-POD

 ISBN (Print-On-Demand):
 978-1-6654-7014-8

 ISBN (Online):
 978-1-6654-7013-1

ISSN: 2770-7954

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





6th International Symposium on Multidisciplinary Studies and Innovative Technologies October 20-22, 2022, Ankara, Turkey

Table of Contents

Front Cover	i
Barranco de Santos. Reality versus theory	1
A Systematic Comparison Between Flutter and React Native from Automation Testing Perspective	6
Grey Wolf Optimizer to the Hyperparameters Optimization of Convolutional Neural Network with Several A	
Test Case Auto-Generation for Web Applications: A Model-Based Approach	18
Gaussian Mixture Model Application in Deforestation Monitoring	26
Moving Object Detection and Counting in Traffic with Gaussian Mixture Models and Vehicle Lice Recognition with Prewitt Method	
A Review of Models and Factors for Digital Educational Games Acceptance and User Experience	37
EasyGoing@Home! Looking for a reproducible efficient flushing process in home parenteral nutrition	43
Development of a Method for Measuring Small Nonlinear Distortions of Periodic Electrical Signals	49
Study for Buildings with IoT System for Energy Management	53
Image Filtering of Impulsive Noise Using Biologically Inspired Algorithms	58
A New Framework for Defect Detection Using Hybird Machine Learning Techniques	66
Spectrum Sharing Techniques for Improving the Quality of Service	69
Effect of Transverse Openings on Structural Behavior of Reinforced Concrete curved Beams	73
Bearing Capacity of Pile Foundation Using Different Methods based on SPT measurements for a Soil in Na	siriyah 78
Investigation of the effect of laser- parameters on the improvement of the signal of spectral analysis lines metals in the crude oil by using LIPS- System	
Petrographic study of Injana Formation in selected areas in Iraq	94
Spatial Analysis Based Method to Determine the Optimal Locations for Asphaltic Concrete Plants: Case Karbala Governorate of Iraq	
Quality assessment of heavy metals presented in crude oil by identification spectral lines by the LIPS- Syste	em111
Study the effect of axial heat conduction in microchannel heat exchanger with different channels geometries	s 119
Experimental Investigation of Double Web Steel Beam Filled with Recycled Aggregate Concrete (RAC)	128
Flexural Behavior of Reinforced Recycled Aggregate Concrete Beams Strengthened by CFRP	134
Smart Cities: A Strategic Approach to Urban Sustainability	142



Improving Automatic Image Annotation System to handle Spatial Analysis of Aerial Imagery	153
Burnout Among Nursing Workers Who Provide Nursing Care for People Infected with COVID-19	159
Correlation of Polyomaviruses (PyV) Infection with The Incidence of Breast Cancer in Iraqi Women	165
Application of The Evans Blue Dye for The Study of Permeability of The Blood Brain Barrier in Rodents	171
Clinical Study of Serum Gamma- Glutamyl Levels in Cigarette Smokers with Nonalcoholic Fatty Liver Dis Governorate – Iraq	
A Unified Objective Ant Colony Optimization for Sentiment Oriented Text Summarazation	182
Detection of Diarrhoeagenic Escherichia Coli Among Other Bacterial Species Isolated from Children Patien Automated Methods and Culture based Techniques	•
Effect of the Three Dimensional Conformal Radiotherapy (3DCRT) Peripheral Dose on The Nipple Region of Opposite Breast of The Obese Cancer Patients	
Enhancing E-learning Quality by Examining The Effects of Key Factors in Iraqi Higher Education Institutions	198
Efficient approximate analytical methods to solve Kaup-Kupershmidt (KK) equation	206
Design of Frequency Reconfigurable Patch Antenna for C, X, Ku, and K Bands Applications Controlled by PIN-I	
A Modified Blowfish Algorithm To Secure Data In Cloud	218
Multiple FBG Wavelength Peaks Detection using Z-score algorithm	223
Homomorphic Encryption between Client and Cloud Server	227
Using DNA In Adynamic Lightweight Algorithm For Stream Cipher In An IoT Application	232
A Photovoltaic Electric Vehicle Automatic Charging and Monitoring System	241
The Proposal of Equations Fitting for Maximum Nuclear Stopping Power Contribution of Incident Lithium in Stopping Power Contribution of Incident Lithium Incide	
Effects of Istanbul's Weather on Free-Space Optical Communications	251
Analyze Urban Area Density As A Measure Of Urban Reconstruction	257
The impact of recycled crumb rubber powder on the behavior of the asphalt mixture	262
Harmonic Analyses of a Voltage Fed Induction Furnace	268
Survey on Handwritten Recognition	273
Oil Spill Segmentation from SAR Images Using Deep Neural Networks	282
Vehicle License Plate Detection Using Deep Learning	288
Effect of Gamma Radiation and Borax on Mechanical Properties of Polyvinyl Alcohol and Chitosan Blend Film	. 293
Using ANN to Predict Gender-Based Violence in Iraq	298
Prediction Network Downtime Values Using NonNegative Matrix Factorization	303
Interleukin 4 gene polymorphisms and connect with asthma patients province of Thi-Oar /Irag	308



Intraoperative Fluid Management for Major Neurosurgery: Narrative study
Identification of Candida Krusei by 18S rRNA Gene and Investigation of SAP1 Gene in Samples Isolated from Femal Genital Tract Infection
$Genetic\ Diagnosis\ of\ Entamoeba\ Histolytica\ in\ Patients\ with\ Acute\ Diarrhea\ in\ AL-Rifai\ City/ThiQar\ province \dots 3200000000000000000000000000000000000$
Attending to Channels in One-Shot Learning Face Recognition using Squeeze-and-Excitation Networks
Improving the Performance of the Karbala Wastewater Treatment Plant by Using GPS-X Model
Role of Nitric Oxide and some Antioxidants in Women with Pregnancy-induced Hypertension33
Relationship between gene polymorphism of vitamin D receptor with Coronary Heart Disease (CHD) in Baghda province /Iraq
Physicochemical and Heavy Metal Properties of Soil Samples in Waste Disposal Site, Suq AlShyokh, Iraq34
Suggestion new monitoring system by depending on the human activity recognition videos
Improvement Of Solar Energy Efficiency Using Solar Tracking and Artificial Intelligence
The Internet of Things Network Penetration Testing Model Using Attack Graph Analysis
Diagnosis of respiratory diseases for children using machine learning
Microarray and Pathway Analysis for Osteoarthritis Disease
A deep learning approach to differentiate between acute asthma and bronchitis in preschool children
Performance comparison of convolutional neural network models for plant leaf disease classification
A comprehensive review of cybersecurity perspective for Wireless Sensor Networks
Expert System for Classification of Nutrition in Young Children
An Approach to Preserve Optimality in Implementation of Fractional Order PID Controllers Considerin Approximation Methods
Detection of COVID-19 Using Classification of an X-Ray Image Using a Local Binary Pattern and K-Nearest Neighbors
Comparison of Different Feature Selection Methods Using Support Vector Machine for Estimating Eye Angles 41
Study of Swelling Potential Soil in Diwaniya City Based on Previous Empirical Equations
Classification And Prediction Retinal Oct Images by CNN Algorithm
Training an open quantum classifier
Using Digital Twins in mechatronics and Manufacturing
Total Petroleum System Study of Nahr Umr Oil field Southern Iraq
Staff Training Ontology for Humanitarian Organizations
Predicting Likeliehood Of Patients Survival After An Accident Using Statistical Regression
Alzheimer's Disease Detection by Applying Chebyshev Moments Followed by Genetic Algorithms46
Detection of Cardiac Arrhythmias in Electroc Ardiograms Using Deep Learning



Power quality assessment of Karabuk University's gridconnected microgrid under high penetration of PV gen	
Improved WBAN EH- MAC Protocol based on Energy Harvesting and Wake up – Sleep Duty Cycling Tec	hnique
Application of OpenCV in serious games	
Design and Simulation of Single and 2x2 MIMO Circularly Polarized Patch Antennas with a Pair of Chip Refor 5G Applications	
Classification of Standard FASHION MNIST Dataset Using Deep Learning Based CNN Algorithms	494
Impacts of Adaptive Reserve Management on Automatic Generation Control for Interconnected Power Grid	499
Simulation of Half-Center Oscillator Circuits Employing Newly Developed Models of Fabricated Memristors .	504
Use of Artificial Intelligence Techniques in Project Production Systems	509
Sustainable Practices in Construction SMEs in the UAE – A Scoping Study	515
Emotion Analysis on Turkish Texts: A Systematic Mapping Study	523
Image Encryption Using Modulated Chaotic Maps	528
XorShiftAnd Random Number Generator For Image Encryption	534
Animal Gait Identification Using A Deep Learning Method.	540
Optimal Design of an In-Runner Direct-Drive Synchronous Permanent Magnet Starter/Generator for UAVs	543
Evaluation for Web GUI Automation Testing Tool - Experiment	549
Novel approaches to measuring the popularity inclination of users for the popularity bias problem	555
Geometric Analysis Of Brain Pathology Using MRI For Tumor Diagnosis	561
Automated Optic Disc and Cup Segmentation for Glaucoma Detection from Fundus Images Using the Detection Mask R-CNN	
Framework Design for Similar Video Detection: A Graph Based Video Clustering Approach	571
Wavelet-Denoised ARIMA and LSTM Method to Predict Cryptocurrency Price	577
Comparison of Electromechanical Properties of Medium Voltage SF6 and Vacuum Circuit Breakers	583
Deep Learning based Vehicle-to-Vehicle See Through System with Auto-Start Function	587
MDA: Multiple Decentralized Anchors for Hiding Communication Information	591
Breast Cancer Detection using Convolutional Neural Networks	597
Efficient Distributed Snapshot Algorithms with Less Message Overhead	602
Healthcare Technology Assessment for Radiology Devices	608
Which keyword extraction method performs better for emerging technology detection?	613
An Experimental Study of the Effect of Different Genetic Algorithm Operators on Coverage Using Heterog	eneous



Otomotiv Üretim Hatlarındaki 3D Parçaların Kalite Kontrolü İçin Endüstri 4.0 İle Uyumlu Yapay Görme Sist Geliştirilmesi	
Analysis of Data Augmentation on Skin Lesion Classification by Using Deep Learning Models	629
A Survey on Machine Learning-based Automated Software Bug Report Classification	635
Course Recommendation System for Students Using K-Means and Association Rule Mining	641
Investigation Of Environmental Effects In Terahertz Band Vehicular Communication	647
Performance Analysis of Feature Sets for Harmonic Radar to Classify Electronic Devices	652
Creating A New Supply Chain With Blockchain	656
Kuantum Radar Teknolojileri	662
Energy Harvesting using Piezo transformer from residual fault current 30 mA	667
Applying Perlin Noise on 3D Hexagonal Tiled Maps	670
Water resource management electromagnetic flow meters analysis	674
Study of Substrate-Materials Impact on Compact Antenna Performance	679
Intelligent Irrigation System-Automation Using IoT Technology: A Review	687
Applying Word Embedding Methods on Customers for Classification	693
NFT-based Asset Management System	697
Conceptualization of Meta-Servitization: 3D Case Study from Furniture Industry	702
The Perspective of Data Quality Rules in Google Forms	707
From Google Forms to Data Repository: A New Methodology in Data Collecting, Data Transforming, and Infor Systems Evaluation	
Preliminary Auditory-Perceptual Evaluation of Resonance for Implementation in an Artificial Intelligence	
Dental filling detection using deep learning in periapical radiography	721
CNN-LSTM To Identify The Most Informative EEG-Based Driver Drowsiness Detection Brain Region	725
Laboratory stand for research of energy characteristics on electric drives with two direction energy exchange	731
Development of Software for Research of Static Mechanical Characteristics in Condenser Mode of Asynch Motor	
Survey of General Communication Based on Using Deep Learning Autoencoder	741
A Recurrent and Meta-learned Model of Weakly Supervised Object Localization	747
Hand Gesture Recognition for Interactive Media Player Using CNN and Image Classification	753
Design of Automated Coffee Machine through Verilog HDL	757
Implementation Of Robot Get-Position-Quick Function To MELFA Robots	761
An erbium-doped EDFA amplifier pump with a 1550-nm pumped erbium-doped fibre	765



Linear Prediction Coefficients based Copy-Move Forgery Detection in Audio Signal	770
$Quantified\text{-}state\text{-}feedback\text{-}based \ Nonlinear \ purefeedback\ MIMO\ systems\ benefit\ from\ adaptive\ neural\ Control\ .$	774
Binary Error and a three-level division multiplexing Dispersion analysis of a rat optical fibre communication s	-
Parameters for Non-Solitons in Fiber and Their Impact on Transmission Performance over Long Distances	
Analyzing Optical Fibre Communication Networks for Intrusion Detection Using FBG Sensors	
Türkçe Radyoloji Raporlarının Doğal Dil İşlenmesi	794
Recent Advances on Convolutional Architectures in Medical Applications: Classical or Quantum?	
Using A Novel Method To Improve Various Stages Of Machines In The Power System	806
Transmission Line Loss Determination of Electricity by Using Convolutional Neural Network	812
Deep Transfer Learning Methods for Classification Colorectal. Cancer Based on Histology Images	818
Classification of Brain Tumors using MRI images based on Convolutional Neural Network and Supervised Ma Learning Algorithms	
Investigation Of The Effective Factors On Solar Powered Fixed-Wing Uav For Extended Flight Endurance	828
The Efficiency of Ensemble Techniques in Predicting Thyroid Disorder: A Comparative Study	834
Closing the Quality Assurance Feedback Loop: Independent Recommender System VALidator	841
Mathematical modeling of information data in the logistics information system for solving some problems (system of education)	
The process of creating teacher's personal page structure model for an integrated education system	848
Speaker Diarization based on Deep Learning Techniques: A Review	856
YOLO ve SSD İle Çeşitli Koşullarda Nesne Algilamasi İçin Makine Öğrenimi Yaklaşimi	872
Review Study on Blockchain Frameworks for Security Issues in IoT Devices.	876
Economical and Functional Display Solution for Microcontrollers	882
Sentiment Based LSTM for Stock Price Prediction: Congress vs General Public	885
Idea Mining From Online Reviews Using Transformation-Based Natural Language Processing Tasks	894
Ukraine Stock Market Spatial-Dynamic Analysis	900
GAN and IEC Approach for Image Generation	907
Obstacle Avoidance in Unmanned Aerial Vehicles Using Image Segmentation and Deep Learning	912
Simulated Motion Control of a School of Microrobots with Random Walks	916
Accelerometer Based Fall Detection and Location Tracking System of Elderly	923
Fault Tolerance Smart Incubator with IoT Control and Alerts	929
Personalised Approach For Building a Gamified Project For User Motivation Management	934
Predicting satisfaction of airline passengers using classification	939



The investigation on the heating performance of the heat pump system with waste heat recovery for the electric	
Detecting and Classifying Drug Interaction using Data Mining Techniques	952
Study of the influence of natural lighting on the consumed electricity for street lighting in a mediumsized cit	y957
Comparative analysis between the traditional KNearest Neighbor and Modifications with Weight Calculation	n961
Base node position optimization for optimal energy consumption in wireless sensor networks	966
Multi-Exposure Image Fusion using Convolutional Neural Network (CNN)	970
Preventive measurement and Prediction of Covid-19 in India through Business Intelligence Tools	976
Impact of Solar Hosting Capacity on Distribution Transformer Efficiency	982
Optimizing the Pattern Recognitions Accuracy by Neural Network Methods	988
Developing a Watermarking Algorithm Using Hide Information Techniques	994
Implementing 3GPP Code Division for NonOrthogonal Multiple Access in 5G	998
Implementation of Socket Programming Simulation Using Quantum Communication Technologies	1007
Improvement of the methodology of building a system of phase synchronization of coherent demodutelecommunication control systems and distance learning	
Workflow for Medical Data Classification and Analysis	1017
A Piecewise-objective Fuzzy-probabilistic Programming Approach for Supplier Selection Problems Discounted Prices/Costs and Uncertain Parameters	
Implementation of Developed Esantem Smart Healthcare System in Metaverse	1027
Brain Tumor Detection Using Convolutional Neural Network	1032
Pseudo-Physical Logics in Control of Cyber Security Systems	1038
An Experimental Study to Enhance the Heat Transfer by the Flow Disturbing	1043
Efficient Time-Sensitive Routing Protocol for Wireless Sensor Network (ETSRP)	1050
Research Study on Relation between Age and Bone Mineral Density	1056
Circular Patch Antenna Design and Analysis for L, S, C, Ku, K, Ka bands, and 5G, Wireless Applications	1061
Numerical study of the effect of the Rehabilitation process on segregated concrete beams' behaviour	1064
Electric shore-to-ship charging socket detection using image processing and YOLO	1069