

2025 7th International Conference on Electrical Information and Communication Technology (EICT 2025)

**Khulna, Bangladesh
18-20 December 2025**

IEEE Catalog Number: CFP2518W-POD
ISBN: 979-8-3315-9393-3



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:	CFP2518W-POD
ISBN (Print-On-Demand):	979-8-3315-9393-3
ISBN (Online):	979-8-3315-9392-6

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

TABLE OF CONTENTS

Texture Enhanced 3D UNet with Deep Shortcut for Brain Tumor Segmentation	1
<i>Md Mahir Abrar Khan, Sk. Md. Masudul Ahsan</i>	
Automatic Image Captioning in Bengali using Transformer Architecture	7
<i>Sheikh Md. Nibir, Sk. Md. Masudul Ahsan</i>	
Transformer-Based Deep Learning Architecture to Enhance Performance of CSS in CRN	13
<i>Laila Arjumand Zannat, Nawaz Talukder Sanglap, Sk. Shariful Alam</i>	
Pressure Effects on the Physical, Electronic and Optical Properties of BaAgCl ₃ : A First-Principles Investigation	18
<i>Md. Ebrahim Khalil, Mohammad Rasel, Akash Biswas</i>	
Efficient 3D Point Cloud Generation using Feature Fusion and Point Cloud Decoding	24
<i>Sumiya Islam Barsha, Sk. Md. Masudul Ahsan</i>	
Effects of Strain Engineering on the Structural, Electronic, and Mechanical Properties of KPbBr ₃ : A DFT Study	30
<i>Md. Ashiqur Rahman, Akash Biswas, Sazzad Ibn Mohsin</i>	
Strain Effects on the Structural, Mechanical, and Electronic Properties of CsSnCl ₃ : A DFT Analysis	36
<i>Sazzad Ibn Mohsin, Akash Biswas, Md. Ashiqur Rahman</i>	
Label-Free, Ultra-Sensitive SPR Refractive Index Sensor Using Si ₃ N ₄ /Ag/BP Heterostructure	42
<i>Arnab Saha, Biswajit Dey, Md Tawabur Rahman</i>	
ConCF: A Hybrid Deep Learning Model for Semantic-Aware Collaborative Filtering in Recommender Systems	48
<i>Alamgir Hossain, Aslam Sikder, Panayiotis Andreou</i>	
Orthogonal Differentially Fed Reconfigurable Penta-Polarized Planar Array Antenna Enabled by Diode-Controlled Delay Lines	54
<i>Debprosad Das, Md. Motahar Hossain, Muhammad Asad Rahman, Md. Aminul Islam, Md. Azad Hossain</i>	
Device Simulation and Optimization of Non-toxic Highly Efficient CsSnI ₃ -based Perovskite Solar Cell	60
<i>Joyanto Biswas</i>	
Integration of Piezoelectric Sensors With Energy Storage for Sustainable Power Generation and Power Delivery	66
<i>Taseen Rahman, Zannatul Musta, Nadman Ahmed Chowdhury</i>	
Catalytic Gate-Engineered Double-Gate Junction-less Vertical TFET for Sensing Hydrogen Gas: A Comparative Study	72
<i>Darpon Chakma, Md. Sajjad Hossain, Abdullah Al Soykot, Md. Nur Kutubul Alam</i>	
Learning-Augmented RIS-Aided Hybrid Beamforming for Secure and Low-Latency Transmission	78
<i>Maksudur Rahman Maksud, Dibakar Roy, Md. Monuwar Hussen, Moloy Kumar Ghosh, Md. Faysal Ahamed</i>	
A DFT Study of Boron-Doped MoS ₂ for Enhanced CO Gas Sensing	84
<i>Mehrin Mukarama Morshed, Ashraful G. Bhuiyan</i>	

Comparative Cost Analysis of Frequency Support Technologies under Rising PV Penetration	89
<i>Md. Hasib Ur Rashid, Tasnimun Razin, Shahadot Hossain, Nowshin Lubaba, Abdul Jabber Antor Asikur Rahman Jowel, Md. Fatin Ishraq Faruqui</i>	
Few-Shot Prototypical Networks for IoMT Intrusion Detection with Adaptive Temperature Scaling and Prototype Spread Regularization	95
<i>Md. Sakibul Islam, F. M. Jahiduzzaman, Md. Siddiqur Rahman Tanveer, Md Mahbub Murshid Ashraf Sharif Mahmoud, Sadia Salma</i>	
High-Performance PTFE Based IDE-F-TENG: A Green Solution in Self Powered Microelectronics	101
<i>Md. Tarek Hosen, Ashraful Ghani Bhuiyan</i>	
Molybdenum Double Gated ALP Channel based JL VTFET for Ammonia Gas Detection	106
<i>Pranto Mallik, Abrar Ahmed Fahim, Md. Sajjad Hossain, Md. Rafiqul Islam</i>	
Cost and Co2 Emissions Cooptimization for Hourly Green Hydrogen Production	112
<i>Mosammat Halima Sadia, Tasmia Abedin Tanha, Yasir Arafat</i>	
Hybrid PTC–Wind System for Green Hydrogen Production Using Cu-Cl Thermochemical Cycle and Alkaline Electrolyzer	118
<i>Israt Jahan Munni, Yasir Arafat</i>	
Design and Implementation of a Low-Cost Impact Testing System for PVC Pipes Compliant with International Standards	124
<i>Sandip Kumer Sarker, Arpon Bose Dibya, Khondokar Sumaya Tabassum, Md Khalid Hasan Sakib</i>	
Design and Analysis of a 15-Level Cascaded H-Bridge Inverter Using Unipolar Sinusoidal PWM for Enhanced Harmonic Suppression	130
<i>Md. Shariful Islam, Md. Eakub Ali, Safia Aktar Dipa</i>	
Automated Multi-Class Fault Diagnosis of Photovoltaic Panels Using Lightweight Convolutional Neural Networks	136
<i>Md. Tanvirul Haque</i>	
Machine Learning and Bioinformatics-Driven Discovery of Biomarkers and Therapeutics for Melanoma and Non-Melanoma Skin Cancers	142
<i>Somaya Jannat, Sagor Roy, Swapnil Saha, Nusrat Jahan Bindu, Md. Abul Basar, Md. Anowar Kabir</i>	
Reconfigurable Dual-Ring Patch Antenna with Varactor-Diode-Based Frequency Tuning	148
<i>Anupam Roy, Solayman Sikder</i>	
A Compact High Gain Dual Band Square Slotted Octagonal Patch Antenna for X, Ku and Upper 5G Bands	154
<i>Shah Md Toufik Ahmed, Sayed Shifat Ahmed, Sadia Tabassum, Md Arafath Hossain Rafi Md. Mehedi Hassan, Md. Saffat Hossain</i>	
Security in Multicasting with SC Diversity and Opportunistic Relaying over Uncorrelated Generalized Gamma Fading Channels	160
<i>M. M. Mahmud</i>	
100 Gbaud QPSK Signal Transmission Using Waveband-Shift-Free Optical Phase Conjugator	166
<i>Yasuhiro Okamura</i>	

Unveiling Common Biomarkers and Therapeutic Targets in T2DM, AMI, and Alzheimer's Disease Using XAI and Bioinformatics Approaches	170
<i>Swapnil Saha, Md. Lutfor Rahaman, Sagor Roy, Somaya Jannat, Md. Abul Basar, Md. Anowar Kabir</i>	
MSRA-Net: An Efficient Deep Learning Architecture with Spatial Attention for Diabetic Retinopathy Classification from Retinal Images	176
<i>Meherose Hossain Tasnia, Mrithika Dutta, Fahim Sahriar, Farhana Rahman, Adiba Masud Kazi Rifat Ahmed</i>	
Comprehensive First-Principles Investigation of the Structural, Electronic, Phonon, and Optical Properties of Lead-Free Halide Double Perovskites Cs_2GeX_6 ($\text{X}=\text{F}, \text{Cl}, \text{Br}, \text{I}$)	182
<i>Anoy Chakraborty, Sudip Dey Dipta, Tanwi Chakraborty, Md. Rasidul Islam</i>	
Discovery of Biomarkers and Drug Targets in different Kidney Diseases by Explainable AI and Functional Genomics	188
<i>Nusrat Jahan Bindu, Md. Lutfor Rahaman, Jebin Akter Tithi, Muhammad Shahin Uddin, Md. Abul Basar Md. Anowar Kabir</i>	
Prediction and Analyses of Women's Malnutrition with Real-Time Data and Explainable Machine Learning Techniques	194
<i>Susmita Sejuti Saha, Dola Das, Sanjida Akter Mou</i>	
Multi-Level Ensemble Learning for Fine-Grained Classification of Traditional Bangladeshi Dress Using Deep Transfer Models	200
<i>Md. Musfiqur Rahman, Sudipa Biswas, S.N.M. Rayhan, Md Shohan Mia, Md Mahbubur Rahman Tusher</i>	
Autoencoder-inspired SPM-Tolerant Concentric-Ring Constellations with Rotated Decision Boundaries and Pattern-Aware LUTs for Low-DSP Coherent Links	206
<i>Masanori Hanawa</i>	
Double-Clad Nested Hollow-Core Antiresonant Fiber for Low-Loss Terahertz Guiding	212
<i>Samia Fairuz, Md Rabiul Hasan</i>	
Query-Conditioned Temporal Instrument Removal from Audio Using Deep Learning	217
<i>Md. Muftashim Abrar Nihal, Ehsanul Karim</i>	
Molybdenum Diselenide Functionalized SPR Biosensor for Ultra Sensitive Carcinoembryonic Antigen Detection	223
<i>Md. Al Amin Islam Utshob, Maymona Binte Juwel, Khandakar Mohammad Ishtiaq</i>	
A Novel Auxiliary-Assisted Reduced Component Switched-Capacitor Seven-Level Inverter for Standalone Applications	229
<i>Md. Ahsanul Alam, Md. Tariqul Islam, Md. Fayzur Rahman</i>	
Deep-SchizoNet: A Lightweight Region-Wise Approach to Detect Schizophrenia Using 1D CNN-BiLSTM Hybrid Model	235
<i>Madan Mohan Saha Momit, Nafis-Ul Momin, Hridoy Kundu</i>	
Noninvasive Glucose Monitoring Device for Diabetes Mellitus Detection	241
<i>Md. Altab Hossain, Sheikh Md. Rabiul Islam</i>	
EEG-Based Hybrid Deep Learning Framework for Binary and Multi-Level Mental Stress Classification	247
<i>Md. Zahid Hasan, Purba Biswas, Md. Fazlul Karim Khondakar, Trishita Ghosh Troyee Mehdi Hasan Chowdhury</i>	

Assessment of the Features of Radiofrequency Radiation Absorption by Lung Tissue and an Improved Method Using Graphene	253
<i>Nawshad Ahmed, Ajay Krishno Sarkar, Nawaj Sharif, Sk Niyaz Romiz</i>	
Multi-core Fiber Featuring Air-hole-assisted Trench for Efficient OAM Mode Transmission	259
<i>Rosni Sayed, Abdul Khaleque, Kumary Sumi Rani Shaha</i>	
A Deep Learning-Aided Framework for Severity-Based Classification of Diabetic Retinopathy in Smartphone-Based Fundus Imaging	264
<i>Shahneela Shailee</i>	
Feasibility analysis of off-grid Solar-Wind Hybrid Renewable Energy Systems in a Coastal Area of Bangladesh	270
<i>Muhammad Jobayed Ibna Bashar, Salman Rashid, Md. Anawar Ibrahim, Shihab-Al-Rashid Md. Zahid Hasan, A.B.M. Noushad Bhuiyan</i>	
A Study on a Rectangular Waveguide Using ANSYS High Frequency Structure Simulator (HFSS)	276
<i>Muhiminul Masud Alvi</i>	
High-Performance Dual-Band Metamaterial Absorber for EMI Shielding in Millimeter-Wave 5G Communication	282
<i>Md. Murad Kabir Nipun, Md. Jahedul Islam</i>	
Simulation Framework for Image Processing Operations Using MATLAB and Verilog	287
<i>Bala Sindhuri Kandula, Subhasri Telkar, S Koteswari, Krishna Chaitanya Pidugu, M.Aravind Kumar Siddanthapu Jyothi</i>	
Weighted Cross-Entropy Loss Based Respiratory Diseases Classification	294
<i>Karnis Fatema, Mohammad Ashfak Habib</i>	
Economical Benefits for 450 kW On-grid Agrivoltaics System: A Case Study of Jessore, Bangladesh	300
<i>Md Mehedi Hasan, Md. Ahsanul Alam, Meherun Nesa, Ahamed Shazid</i>	
Design of a Polarization-Insensitive Triple-Band High-Q Microwave Metamaterial Absorber	305
<i>Asif Mohammed Siddiquee, Muhammad Asad Rahman, Rahul Chowdhury, Somen Dutta</i>	
Design and Image Analysis of an APS-Derived CMOS Neuromorphic Model Mimicking Retinal Rod and Cone Pathways	310
<i>Abdey Munaf, Md Turiqul Islam, Zeki Kus, Musa Aydin, Alaaddin Al-Shidaifat, Sung Kwon Kim Hanjung Song</i>	
Design and Performance Analysis of a Wideband Phased Array Antenna for GNSS Applications	316
<i>Md Hafiz Al Asad, Md Hossam-E-Haider</i>	
Primary-Side Estimation of Mutual Inductance in Wireless Power Transfer Under Misalignment of Ferrite Magnetic Couplers	322
<i>Md Shoaibur Rahman, Pritam Bol, Saidul Alam Chowdhury</i>	
From Black-Box to Transparent AI in Agriculture: Integrating Grad-CAM and Counterfactual Explanations for Rice Leaf Disease Detection	327
<i>Md. Shahariar Sarkar</i>	
Graphene-Based Cross-Shaped Four-Fold Symmetric Metasurface with Localized Surface Plasmon for Tunable Terahertz Absorption and Sensing Applications	333
<i>Farhan Labib, Nusrat Jahan Ohee, Md. Shariful Islam</i>	

EEG Channel Reduction via Autoencoder for Deep Learning-based Seizure Forecasting	339
<i>Rayhan Islam Rabbi, Muhammad Masum Billah Mojumdar, Ainul Anam Shahjamal Khan</i>	
A Deep Hybrid Learning Approach for Estimating Energy Consumption in NB-IoT Devices	345
<i>Kazi Md Abir Hassan, Kazi Md Abrar Yeaser</i>	
A Novel Approach for Dynamic Spectrum Sharing Between LTE and NR in Heterogeneous Networks	350
<i>Rony Kumer Saha</i>	
Techno-Economic analysis of Solar and Biogas-based Hybrid Mini Grid Power System of rural area in Barishal	356
<i>Abdullah Al Mamun, Md. Ragib Mahatab, A.B.M. Noushad Bhuiyan, Md. Mustafizur Rahman, Md Yeasin</i>	
Edge-Optimized Firefighting Robot: Autonomous Navigation via PID Control and Fire Detection with FOMO Vision	362
<i>Kazi Abrar Mahmud, Fahim Ahmed, Rayhan Siddiq, Shadman Sobhan</i>	
Repurposed PET Bottle Acoustic Collimator for Multipath Mitigation of Underwater Acoustic Wireless Communication in Shallow Water Environments	368
<i>Masanori Hanawa, Md Ashiqur Rahman</i>	
Optimized Soft-Switching DC-DC Converter with Intelligent MPPT for Solar Power Systems	374
<i>Prince Ghosh</i>	
Bengali Shallow Parsing with XLM-RoBERTa: A Rule-Guided Multitask Approach	380
<i>Radha Rani Paul, Julia Rahman</i>	
Novel monolayer SrAlGaSe ₂ Te ₂ : A 2D Material with Promising Electronic, Optical, and Piezoelectric Properties	386
<i>Swmic Majumder, Tanshia Tahreen Tanisha, Auditee Majumder Momo, Md. Kawsar Alam</i>	
A Diode-Shaped mmWave Patch Antenna with Defected Ground for Dual-Band High Frequency Applications	392
<i>Anik Paul, Farhin Sultana, Md. Azad Hossain</i>	
Enhanced Skin Disease Classification: Evaluating Deep Learning Models on a Customized Dataset and a Hybrid Model Approach	398
<i>Md Rezaul Karim Reza, Shoaib Rufsun, M.S.R. Chowdhury, Mehjabeen Nokshi, Marzuka Ahmed Jumana</i>	
CycleX: IoT-Integrated Smart Bicycle Sharing System for Campus Environments	404
<i>Md Arefin Molla, Amit Kairy, Md. Repon Islam</i>	
Performance Evaluation of Approximate Computing Architectures for Image Multiplication	410
<i>G. Saranya Manasa</i>	
IOT-Integrated Biogas-Fueled Power Generation, Gas Filtration and Monitoring System	416
<i>Taseen Rahman, Md. Mushfiqur Rahman, Nadman Ahmed Chowdhury, Md Absar Siddiqui</i>	
<i>Md. Abdur Rahman</i>	
Voltage-Controlled Bandgap Engineering in Zigzag WSe ₂ Nanoribbons: A First-Principles Study	422
<i>Toahera Abdullah, Mahbub Alam</i>	

Voltage Stability and Power Quality Enhancement of a Grid-Connected Three-Phase Inverter Using a PI Controller in the dq Frame	428
<i>M. A Mannan Akonda Emon, Md. Shahin Alam, Hasibul Hossain, Tanvir Ahmed, Nafisa Khanom Zahid Hassan</i>	
QoS-Aware Beamforming for RIS-Enhanced mmWave Systems: A QoS-Constrained Sum-Rate Maximization Approach	434
<i>Monzur Morshed, Mostafa Zaman Chowdhury</i>	
Performance Enhancement of QPSK Modulated FSO System Employing Deep Residual Convolution Neural Network	440
<i>Al-Imran, Md. Shahriar Kabir, Mostafa Zaman Chowdhury</i>	
Design of a Highly Impedance-Matched Patch Antenna with Superstrate cover for the Wi-Fi 6 Applications	446
<i>Md Mizanur Rahman, Md. Shah Alam</i>	
Analysis of Dual Band Antenna Parameters on Jeans Substrate Under Bent Condition for Wearable Application	452
<i>Md Ziadul Karim, S M Ashik Al Mashrafi, Ajay Krishno Sarkar</i>	
Hybrid Pathloss Modelling for Multi-Unit Intelligent Reflecting Surface with Frequency Dependent Reflection	457
<i>Pritha Basu, Shrabony Biswas, Mostafa Zaman Chowdhury</i>	
Experimental Characterization of Low-Cost Fabricated H-Plane Horn Antennas for X-Band Using Two-Antenna Method	462
<i>Mohammad Mashhunur Rahman, Mehedi Hassan, Md. Maksudul Kabir, Mahbuba Ferdous</i>	
A Biomechanical Study of Hip Joint Mechanics: Effects of Modified Footwear Torsional Stiffness in Sidestep Running Cuts	468
<i>Md Samsul Arefin, Fong-Chin Su</i>	
Study of a Solar-Powered Hybrid Microgrid for Tea Estates in Bangladesh: A Homer Pro Simulation	473
<i>Md. Khalid Mahmud, Eazaz Ahamad, Mohammad Rejwan Uddin, Khosru Mohammad Salim</i>	
Lightweight Visual Question Answering (VQA) Model for Skin Disease Detection	479
<i>Abtahi Noor, Raiyan Habib Mahe, Azwad Aziz, Amitabha Chakrabarty, Ridwan Noor Tasin Md Fahim Ul Islam, Rafeed Rahman</i>	
Exploring Common Molecular Interactions across Multiple Cancers to Identify Potential Therapeutic Targets and Drug Candidates	485
<i>Sourav Basak Shuvo, Sraboni Hossain, Shaira Afra Redhila, Urmi Bose</i>	
FGT: Feature-aware Graph Transformer for Link Prediction	491
<i>Md Golam Morshed, Md. Murad Kabir Nipun, Md. Jahedul Islam, Md. Abul Bashar, Raton Kumar Nondi</i>	
Design of a Tunable Hexa-Band Metamaterial Absorber With Integrated Resistors and Varactor Diodes for S-, C-, X-, and Ku-Band Applications	497
<i>Rahul Chowdhury, Muhammad Asad Rahman, Mohammed Saifuddin Munna, Asif Mohammed Siddiquee</i>	
Numerical Investigation and Performance Optimization of Bulk Heterojunction Organic Solar Cells Using Different Hole Transport Layers	503
<i>Kaushik Mazumder, Sakib Hossen, Md. Faruk Hossain</i>	

Performance Evaluation of Phased Array Radar for Adaptive Search and Multiple Object Tracking	509
<i>Md. FarhanShahriar, Md. Selim Hossain, Sheikh Shafaet Islam, Md. Mominul Hasan Shawon</i>	
Fabrication of MoS ₂ -Graphene Heterojunction-Based Schottky Diode for GHz Range	515
<i>Sanjeev Thapa</i>	
Performance Analysis of Dielectric Material of a Coaxial Cable using ANSYS HFSS	521
<i>Md. Ahoshan-Uz-Zaman Rafi</i>	
Temperature-Based Current Estimation for Water-Cooled Chillers	527
<i>Md. Anisur Rahman, Md. Golam Sadeque, Diponkar Kundu, Md. Galib Hasan, A.H.M. Iftekharul Ferdous</i>	
<i>Md. Tanjil Sarker</i>	
Physical-sensorless Framework for Wide-area Real-time Salinity Estimation based on Duplex Underwater Acoustic Wireless Communication	532
<i>Md Ashiqur Rahman, Masanori Hanawa</i>	
Secrecy Capacity of Power Beacon Assisted Short Packet Wireless Networks in the Presence of Multiple Eavesdroppers	538
<i>Abdullah Al Noman, Md. Zahurul Islam Sarkar, Abid Hasan</i>	
Sensor-based Bangla Sign Language Recognition: Comparative Analysis of Data Augmentation Methods	544
<i>Abdullah Al Rafi, Faria Afrin Tisha, Md. Rakibul Islam, Tasnim Binte Shawkat, Hafsa Binte Kibria</i>	
Portable Network-Connected Monitoring Device for EV Induction Motors Using ESP32 and Raspberry Pi with Multi-Sensor Data	550
<i>Rifat Ahmed, Julfiker Ibn Haider, Mehedi Hasan, Anik Kumar Debnath, Wakil Ahmed, Shihab Uddin</i>	
Highly Efficient Forward and Inverse Design of Metasurface-Based Colors Using LSTM Networks	555
<i>Sakib Sadman, Abdul Khaleque, K. S. Rani Shaha, Rabiul Islam</i>	
Comparison of Machine Learning Models for Accurate Prediction of Power Conversion Efficiency in Perovskite Solar Cell	559
<i>Munaem Ahmed Mahdi, Nripendro Biswas, Mohona Das Gupta</i>	
Design and Optimization of Hollow-Core Photonic Crystal Fiber for Multi-Alcohol Sensing Applications in the Terahertz Regime	565
<i>Md. Motiur Rahman Tareq, Kalyan Kumar Halder</i>	
Electricity Demand Forecasting of Bangladesh Based on Darts Temporal Fusion Transformer (DTFT)	571
<i>Nripendro Biswas, Iftekhhar Hossain, Mohammed Faysal Jaman, Md. Mehedi Hassan</i>	
<i>Munaem Ahmed Mahdi</i>	
SoilSense: An IoT-Based Soil Health Monitoring System for Smallholder Farmers in Bangladesh to Support Sustainable Agriculture	577
<i>Saumyadip Das, Nur-E Sarjina Khan, Md. Ahasan Habib Alif, Raiyan Bin Alam, Mahima Afroz, Niloy Paul</i>	
<i>Md. Sajid Hossain</i>	
Bi-Entropy Curve Equalization for Enhancement of Images	583
<i>Hafijur Rahman</i>	
VANET based Vehicular System for Real-time Accident Prevention and Traffic Management in Dhaka-Chattagram Highway	589
<i>Mohammad Sayem, Md. Nahidul Alam, Md. Zahid Hasan Buiyan, Syed Rakib Hasan</i>	

Design of a Robust Sliding Mode Strategy Based on a Modified Reaching Law for High-Performance PMSM Speed Regulation	595
<i>Pritom Aich, Simanto Saha, Md. Mostafizur Rahman, Ovishak Roy, Anis Ahmed</i>	
Design and Multi Objective Optimization of a Dual Stator Single Rotor Permanent Magnet Synchronous Generator for Wind Energy Conversion	601
<i>Fahmida Akter Jesis Shithi, Md. Arafat Rahman, Saadman Saqueeb</i>	
Enhancing Security in Rayleigh Fading Channel with Best Reconfigurable Intelligent Surface	607
<i>Md. Fahmid Ibne Afzal, Md. Zahurul Islam Sarkar, Abid Hasan</i>	
Feature-Driven PCG Signal Analysis for Valvular Heart Disease Detection	613
<i>Sharfuddin Al Pasha Chowdhury, Arifa Tanzim, Pritam Banik</i>	
Recognition of Fabric Construction Types with CNNs and Transformers: Analysis of Knit, Woven, and Non-Woven Fabrics	619
<i>Shohag Babu, Meherun Nesa, Md. Selim, Hrithik Majumdar Shibu</i>	
AI-Assisted Performance Prediction and Design of Eco-Friendly Perovskite Solar Cells Using SCAPS	625
<i>Md. Arifur Rahman, Samiul Hoque Kashfi, Ayesha Akter, Tarekul Islam, Bayazid Hossain</i> <i>Md. Jahangir Alam</i>	
Performance Evaluation of Ensemble Machine Learning Algorithms for Left and Right Bundle Branch Block Classification from ECG Signals	631
<i>Md. Ashaduzzaman Chowdhury, Torikul Islam, Md. Mohibul Islam, Nayem Zaman, Asif Abdullah</i>	
Cattle Infectious Disease Prediction Using Machine Learning Model and Explainable AI	637
<i>Mahfuzulhoq Chowdhury, Nasrul Karib, Debarati Dhar</i>	
Smart Farm: Integrating Solar Energy, Automated Irrigation, and Livestock Feed System	643
<i>S M Mahadi Hasan, Anzum Mohammad Jauad, Abu Saleh Mohammad Nasrullah, Simanta Datta Ronobir</i> <i>Shahriar Tamim, Rabeya Akter</i>	
DUETR-ViT: A Novel Dual-Scale Patch Embedding UNETR with Vision Transformers for 3D Medical Image Segmentation	649
<i>Saimum Islam Jeem, Tarsheed Zaman Radif, Zia Md Galib Ul Alim</i>	
Deep Learning PAPR Reduction Framework For 5G NR Uplink OFDM	655
<i>Francesco De Florence, Abu Saleh Molla, M. Khairul Islam, M. Humayun Kabir</i>	
Soliton-Enhanced Highly Sensitive Multi-Gas Detection using Hollow-Core Photonic Crystal Fiber	661
<i>Taimur Rahman Dip, Md. Jahirul Islam, Sunanda Das</i>	
Sustainable Choline-Based Ionic Liquids as Electrolytes for High-Voltage Supercapacitors: A Molecular Dynamics Study	667
<i>Robin Sarker, Md. Rafiqul Islam</i>	
Design and Analysis of Lead-Free Double Perovskite Solar Cells Based on Cs ₂ PtI ₆ , Cs ₂ TiBr ₆ , and Cs ₂ AgBiBr ₆	673
<i>Tawseef Salim Rafi, Jawadul Alam Shabab, Md. Sherajul Islam</i>	
Finite Element Modeling and Analysis of Lightning Electromagnetic Effects on a Radio Broadcasting Installation	679
<i>Md. Kamal Hossain, Md. Faruque Hossain</i>	

Phytochemical Screening of Neem Plant (<i>Azadirachta indica</i>) against Androgen Receptor Protein for the Treatment of Prostate Cancer through Pharmacoinformatics and Molecular Dynamics Simulation	685
<i>Tofayel Ahmed Emran, Asif Abdullah, Mohaimenul Islam Tareq, M.A. Rafi, Nayem Zaman</i>	
<i>Md. Nazmul Hasan</i>	
Advanced Control Strategies for SEPIC Converters: Performance Evaluation of LQG and MPC under Varying Conditions	691
<i>Sadikur Rahman, Ariful Islam Riad, Fahim Shaharia, Md. Faisal Rahman Badal, Md Zunaid Hossen</i>	
Bangla Syntax Annotation: A Data-Driven Approach to Bangla Dependency Parsing with a Treebank	697
<i>Shaikh Prothomaa Binte Minhaz, K. M. Azharul Hasan</i>	
Performance Analysis of GaAs Substrate-Based ISFET for pH Sensing Application	703
<i>Niloy Kundu, Sunjidah Hossain, Iffat Mahmud, Md. Faruk Hossain</i>	
Material Property-Based Efficiency Optimization of Perovskite Solar Cells via Machine Learning	709
<i>Ihtesham Ibn Malek, Borhan Ahmad</i>	
Emotion-Aided Hate Speech Detection in Bangla Social Media Text	714
<i>Md. Masudur Rahman, K. M. Azharul Hasan</i>	
Design and Performance Analysis of a Common Source Cascode LNA using 90nm Technology	720
<i>Konica Akter, Md Rumman Al Shahriar, Afique Rahman Chowdhury Afik, Adnan Sami Sarker</i>	
<i>Anik Chowdhury</i>	
Design of a Negative Refractive Index THz Metamaterial Biosensor For Cancer Cell Detection	726
<i>Md. Abdul Kader Nayon, Md. Raisul Islam Rifat, Nipa Dhar</i>	
Self-Billing Shopping Trolley With POS Software	732
<i>Rakibul Hassan, Md. Mutassim Fuad, Saikat Kirtania, Muaz Muhammad Tamim, Sajal Somodder Rony</i>	
Numerical Investigation of ZrN-ITO Coated Photonic Crystal Fiber Based Plasmonic Refractive Index Sensor	738
<i>Fardous Mahmud, Samiul Hasan, Hemal Sharma, Shahriar Haque Kanon, Emranul Haque, Feroz Ahmed</i>	
Building a Bangla Corpus for Enabling Reliable Benchmarking in Tense Error Detection	744
<i>Pavel Ferdous, K. M. Azharul Hasan</i>	
Vishing Shield: A Conceptual Framework and Detection Model to Mitigate Vishing Attacks in Mobile Financial Services (MFS)	750
<i>Atish Sarker, Md. Wahiduzzaman Chy, Shatubdi Roy Tithi, Sagor Roy, Md. Abir Hossain</i>	
<i>Muhammad Shahin Uddin, Md. Anowar Kabir</i>	
Data-Driven SOC Estimation with Uncertainty Quantification for EV Batteries	756
<i>Rifat Islam Rony, Mursalin Biswas Emon, Mehedi Hassan</i>	
DSCBAM-Net: A Lightweight Neural Network with Grouped Depthwise-Separable CBAM for Automated Brain Tumor Classification	762
<i>Abdullah Al Shafi, Sumaiya Rahim Suma, Sk. Md. Masudul Ahsan</i>	
Material and Geometry Optimization of a SAW Gas Sensor for Precise Low-Concentration CO ₂ Detection Under Varying Environmental Conditions	768
<i>Anik Chowdhury, Abrar Adib, Aditta Chowdhury, Md. Istiaque Reja</i>	

Feasibility of East-West and South-Facing Rooftop PV Orientations for Carbon Reduction and Grid Support in Bangladesh	773
<i>S. M. Shahidul Alam, Md. Ridoanul Haque, Nipu Kumar Das</i>	
Enhancing Rural Healthcare in Community Clinics using LoRa Technology	779
<i>Shadman Shakib Prodhan Sayor, Jeba Fairouz Rahman</i>	
Enhancing the Efficiency of Multiclass DDoS Detection with Hybrid Feature Selection	785
<i>Shimul Bala, Sk. Md. Masudul Ahsan</i>	
Velocity Aware Predictive Geometry Based Handover Management in LEO Satellite NTN's	791
<i>Lamia Enam, Mostafa Zaman Chowdhury</i>	
Shared Bandwidth Allocation Algorithm for SDN-based Multi-Tenancy and Multi-OLT Hybrid EPON	797
<i>Khandaker Al Arafat, Monir Hossen</i>	
Stabilizing Load Power in Two-Transmitter Inductive Power Transfer Systems with Asynchronous Power Sources	802
<i>Quang-Thang Duong, Quoc-Trinh Vo, Van-Dien Nguyen, Vy-Rin Nguyen</i>	
Enhancing Ergodic Secrecy Capacity of $K - \mu$ Shadowed Fading Channels with Reconfigurable Intelligent Surface	808
<i>Abid Hasan, Md. Zahurul Islam Sarkar</i>	
Strain-engineered Modulation of the Electrical and Optical Properties of Ba_3PbCl_3 Perovskite: A DFTbased Investigation	814
<i>Debjyoti Banik, K.M. Mehedi Hassan, Md. Jahirul Islam</i>	