**ICCPCT 2025**

**TECHNICAL SESSION DETAILS**

**07-08-2025**

**Day – 07/08/2025 Time: 2.00 pm-4.00 pm Venue 1: IQAC Room**

Chair: **Dr.Dharun V S**, Principal, Jaya Institute of Technology, Kanchipadi

Session Title/Area: **Artificial Intelligence**

Faculty in Charge: **Prof. Preethi B**, Assistant Professor, Baselios Mathews II College of Engineering, Kollam

Rapporter: Abhimanyu, Ivin Saji

| **Sl. No** | **Paper id** | **Title** |
| --- | --- | --- |
| *1* | 1285 | YOLO-AI: An Intelligent Real-Time Object Detection and Assistive Navigation System with NLP-Driven Feedback for Smart Accessibility |
| *2* | 1286 | CNN-SVM Enabled Computer Vision Framework for Virtual Mouse Control in Amputee Assistance |
| *3* | 1284 | Real-Time Detection of Driver Drowsiness and Lethargy Through Eye and Facial Movements Using OpenCV (EyeF Model) |
| *4* | 170 | A RESOURCE EFFICIENT MACHINE LEARNING PIPELINE TO DETECT ATRIAL FIBRILLATION |
| *5* | 197 | Cryptocurrency Forecasting: Predicting Dogecoin Prices with Machine Learning |
| *6* | 205 | AI Powered Laptop Fault Detection and Diagnosis |
| *7* | 210 | Adversial Learning Through GAN and Feature Extraction Through CNN for Deep Fake Detection  |
| *8* | 275 | Optimizing Solar Panel Efficiency Using Machine Learning for Adaptive Tilting and Advanced MPPT Algorithm |
| *9* | 296 | An NLP-Driven Approach for Automated Transcription and Summarization of YouTube Videos |
| *10* | 364 | Machine Learning-Based Efficient Water Quality Analysis and Prediction |
| *11* | 397 | An Advanced Hybrid Deep Learning Framework for Automated Waste Classification and Detection |
| *12* | 399 | Hybrid Deep Learning Framework for Early and Accurate Oral Cancer Detection |
| *13* | 403 | Hybrid Multistage System for Plant Disease Classification and Treatment Recommendation |
| *14* | 419 | A Hybrid CNN-ViT and GAN (HCVGAN) Model for Cocoa Leaf Disease Prediction |
| *15* | 420 | Multi Modal Deep Learning Framework for Malpractice Detection in Virtual Exams Using YOLOV5 |
| *16* | 475 | Fraudulent Transaction Detection Using Machine Learning |
| *17* | 498 | A Hybrid CNN-LSTM Multi-Modal for Early Detection and Recurrence Prediction of Ovarian Cancer and Model Transparency using SHAP and LIME |
| *18* | 717 | 3D Resnet-50 for Parkinson’s Disease Diagnosis: A Deep Learning Approach for MRI Classification |

**Day – 07/08/2025 Time: 2.00 pm-4.00 pm Venue 2: EEE Seminar Hall**

Chair: **Dr.R. Suji Pramila,** Associate Professor of Computer Science, Mar Baselios Institute of Technology and Science

Session Title/Area: **Artificial Intelligence**

Faculty in Charge: **Prof. Priya Geevarghese**, Assistant Professor, Baselios Mathews II College of Engineering, Kollam

Rapporter: Nakshathra B V, Ananya H

| **Sl. No** | **Paper id** | **Title** |
| --- | --- | --- |
| *1* | 507 | Deep Learning Based - Brain Stroke Detection System on CT Images using CNN and Federated Learning (CNN-FL) |
| *2* | 521 | Multi-Model Learning for Breast Cancer Prediction: Performance Evaluation Across Diverse Datasets |
| *3* | 523 | A Multimodal Deep Learning Framework for Emotion Recognition in Text and Visual Media |
| *4* | 545 | Predictive Analytics for Climate-Driven Crop Yield Forecasting Using Machine Learning |
| *5* | 562 | Next-Gen AI: AutoML-Powered Video Filtering for Ultimate Content Accuracy |
| *6* | 581 | Social Media Aided E-Commerce Dynamic Pricing System using GPT-3.5 and XGB Regressor |
| *7* | 594 | Prediction of Sonar Rock Against Mines Using Machine Learning  |
| *8* | 618 | Transforming Medical Retail: Data-Driven Inventory Insights and Machine Learning Powered Sales Forecasting |
| *9* | 639 | Email Spam Detection using Machine Learning |
| *10* | 662 | E-Commerce Site Payment Fraud Detection using Machine Learning Technique |
| *11* | 688 | AI-Based Nutrient Management System For Crops  |
| *12* | 690 | Data Warehousing and Analytics for E-Commerce Using EfficientDet Model (EDM) |
| *13* | 691 | Precision Driven Sentiment and Topic Classification of News Articles using IndicBert Model (IBM) |
| *14* | 692 | Analysis and Prediction of Road Accidents using Vision Transformer Model (VTM) |
| *15* | 695 | Automating Portfolio Replication with Stock Market Algorithms |
| *16* | 701 | A DEEP DIVE INTO MACHINE LEARNING AND DEEP LEARNING TECHNIQUES FOR BRAIN HEMORRHAGE DETECTION  |
| *17* | 720 | Selective Solar Power Plants Shutdown System During Reverse Power Condition |
| *18* | 721 | MEDIGREEN: AI BASED MEDICINAL PLANT IDENTIFICATION USING DEEP LEARNING |

**Day – 07/08/2024 Time: 2.00 pm-4.00 pm Venue 3: Einstein Hall**

Chair: **Dr.Shameem,** Associate Professor, TKM College of Engineering, Kollam

Session Title/Area: **Artificial Intelligence**

Faculty in Charge: **Prof. Gimy Joy**, Assistant Professor, Baselios Mathews II College of Engineering, Kollam

Rapporter: Ardra, Jobin

| **Sl. No** | **Paper Id** | **Title** |
| --- | --- | --- |
| *1* | 728 | AI ENHANCED HANDLOOM PLATFORM FOR DIRECT WEAVER TO CUSTOMER SALES |
| *2* | 734 | A Hybrid Approach for Detection of Epileptic Seizures in Real-time using LSTM and IoT |
| *3* | 736 | Artificial Intelligence Model for Parkinson’s Disease Prediction Using Gait Biomarkers |
| *4* | 752 | Solar Photovoltaic Integrated DC Fast Charging Station for Electric Vehicle |
| *5* | 756 | Predicting Heart Disease using Machine Learning Approach |
| *6* | 793 | Cloud-Connected LoRa Weather Station for Smarter Farming |
| *7* | 819 | IoT-Enabled Smart Home Energy Management System: Methodology and Implementation |
| *8* | 829 | Machine Learning-Based Analysis of Lifestyle Factors for Sleep Apnea Detection |
| *9* | 846 | Investigation of Electrical Characteristics and Hot Tensile Deformation Behaviour: Novel Assessment of Similar Joints by FSW technique |
| *10* | 857 | Poultry Disease Identification from Close-up Images: A Multimodal Approach |
| *11* | 861 | STACKPath: A Stacked Classifier-Based ML Pathway for Histopathological Cancer Detection |
| *12* | 863 | Agriconnect: Bridging Farms And Bazaars Through Mobile Technology |
| *13* | 956 | Evaluating and Exploiting Security Vulnerabilities in Large Language Models (LLMs) for Offensive Penetration Testing |
| *14* | 973 | Real-Time Smart Fan Speed Adjustment with Buzzer Alerts for Environmental Temperature  |
| *15* | 992 | An AI Hybrid Model for Road Accident Detection based on YOLO and CNN Algorithm |
| *16* | 997 | CNN-Based Image Segmentation Enhanced with K-Means Clustering: Insights from CIFAR-10 and YOLOv3 |
| *17* | 999 | SAFE HAVEN: GENDER ANALYSIS FOR SAFER SPACES |

**Day – 07/08/2025 Time: 2.00 pm-4.00 pm Venue 4: Civil Seminar Hall**

Chair: **Dr.Muthukumar Paramasivan, Professor**, Department of Electrical and Electronics Engineering, Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences, Chennai, Tamil Nadu

Session Title/Area: **Artificial Intelligence**

Faculty in Charge: **Prof. Deepthy S**, Assistant Professor, Baselios Mathews II College of Engineering, Kollam

Rapporter: Nandana M S, Asha S

| **Sl. No** | **Paper Id** | **Title** |
| --- | --- | --- |
| *1* | 1004 | A Hybrid Convolutional Neural Network Integrated with Federated Learning and Bayesian Optimization (HCNNFLB)Technique for Diabetes Prediction |
| *2* | 1015 | SolarSync: SMART EV CHARGER WITH V2HPOWER |
| *3* | 1023 | Smart Finance Investment Management and Community powered by Generative AI |
| *4* | 1024 | Indigenous Leafy Green Identification Using Deep Learning and Image Processing Techniques |
| *5* | 1025 | ENHANCING CERVICAL CANCER DETECTION: EXPLAINABLE AI AND ATTENTION MECHANISMS FOR PAP SMEAR CLASSIFICATION |
| *6* | 1027 | Customer Segmentation Using Machine Learning  |
| *7* | 1032 | Contoso Mortage System |
| *8* | 1039 | Defect Detection and Analysis in Solar Panel using VGG Algorithm |
| *9* | 1069 | Early Detection of Lung Cancer with Deep Learning: An Optimized ResNet-50 Model |
| *10* | 1104 | Bridging the memory-process divide: A Review of Heterogeneous Integration for Energy-Efficient Exascale Systems |
| *11* | 1124 | Hybrid Fuel Cell–Battery System for Dynamic DC Bus Voltage Control |
| *12* | 1134 | Diabetes Disorder Diagnosis and Management Using AI: A Comprehensive Review |
| *13* | 1144 | Multi Disease Identifying Application Using TwoLayered Neural Network |
| *14* | 1150 | Improving Early Lung Cancer Detection using Modified Version of Convolutional Neural Network  |
| *15* | 1154 | Climate-Aware Plant Phenotyping and Crop Suitability Prediction Using CNN + XGBoost |
| *16* | 1280 | Decentralized News Verification with TruthChain: Integrating Blockchain and AI for Misinformation Control |
| *17* | 1281 | An Adaptive Intelligent Dynamic Code Analysis Powered by Large Language Models |
| *18* | 1282 | ViTCap: A Context-Aware Image Captioning Model Combining Vision Transformers and Transformer Decoders |

**Day – 07/08/2025 Time:2.00 pm-4.00 pm Venue 5: Mechanical Seminar Hall**

Chair: **Dr. Aneesh G Nath,** Head and Associate Professor, TKM College of Engineering, Kollam

Session Title/Area: **Computing & Blockchain**

Faculty in Charge: **Prof. Anjali Nair**, Assistant Professor, Baselios Mathews II College of Engineering, Kollam

Rapporter: Gouri, Manna

| **Sl. No** | **Paper Id** | **Title** |
| --- | --- | --- |
| *1* | 1283 | AI-Augmented Emotion-Aware Learning through Multimodal Data Fusion |
| *2* | 1292 | MedAI+: Intelligent Personalized Healthcare Through Advanced AI Analytics  |
| *3* | 239 | OPTIMIZED RSA HARDWARE ACCELERATOR DESIGN FOR BLOCKCHAIN NETWORKS: 2048-BIT IMPLEMENTATION  |
| *4* | 339 | Decentralized and Thrustless E-Voting Leveraging Blockchain for Democratic Integrity |
| *5* | 467 | Securing Blockchain Networks with FPGA-Based AES and ECC Techniques |
| *6* | 570 | ORGAN DONATION WEBPLATFORM WITH BLOCKCHAIN INTEGRATION  |
| *7* | 630 | Blockchain Technology for Authentic Product Identification in the Medical and Pharmaceutical Sector Using QR code and NFT (QR-NFT) |
| *8* | 1071 | IOT BASED SMART VEHICLE SAFETY SYSTEM AND COLLISION DETECTION |
| *9* | 4 | Hybrid CNN-Wavelet Approach in Detecting Plant Disease and Classifications |
| *10* | 1142 | MedAi: An AI-Driven Approach to Personalized Healthcare |
| *11* | 1293 | LLM-Assisted Visual Learning Framework for LeetCode Algorithm Solutions |
| *12* | 271 | Blended Ensemble Learning for Demand Prediction: An AutoML Driven Approach  |
| *13* | 806 | AI-Driven Gardening Assistant: Intelligent Plant Care and Disease Detection Using AI |
| *14* | 897 | V2V Communication for Collision Prevention in Autonomous Traffic: MATLAB Simulation Insights |
| *15* | 755 | Low-Power Digital Circuit Design: Evaluating Pass - Transistor Logic and CMOS for Power-Delay Optimization |
| *16* | 1102 | Deep learning Based Non-Invasive Intelligence Estimation Employing CNN-LSTM Modeling of MRI Brain Data |
| *17* | 1287 |  Towards Robust Phishing Detection: A Fusion of Machine Learning, NLP and Emerging Technology |
| *18* | 110 | Verifying Grover's Quantum Algorithm: From Theory to Practice |
| *19* | 337 | Implementation of Shor’s Algorithm: Factoring a 4096-Bit Integer Under Specific Constraints |

**Day – 07/08/2025 Time: 2.00 pm-4.00 pm Venue 6: CSE Lab I**

Chair: **Dr.Manoj**, Professor and Head, Electronics and Computer Engineering, Marian Engineering College, Trivandrum

Session Title/Area: **Communication and Signal Processing**

Faculty in Charge: **Prof. Giji Sonia**, Assistant Professor, Baselios Mathews II College of Engineering, Kollam

Rapporter: Abhimanyu, Niranjana

| **Sl. No** | **Paper Id** | **Title** |
| --- | --- | --- |
| *1* | 203 | Design and Simulation of Ingestible Capsule for Early Tumor and Cancer Cell Detection using Antenna Technology |
| *2* | 664 | Optimization Of High-Performance Microstrip Antenna Design Through Machine Learning-Enhanced Parameter Sweeping Techniques |
| *3* | 763 | Integrated Wearable Sensor for Pulse, Heart Rate, and Temperature Monitoring |
| *4* | 816 | Securing MQTT Interfaces with Web Application Firewalls: A Comprehensive Approach to IoT Security |
| *5* | 1103 | Early Detection of Fetal Abnormalities Using BiLSTM: A Deep Learning Framework for Prenatal Care |
| *6* | 317 | Enhanced FPGA Based Multi-Sensor System for Health Monitoring with I2C Protocol |
| *7* | 751 | SCHOLAR SYNC SYSTEM USING PYTHON |
| *8* | 315 | FPGA Based PWM Controlled Air Ventillation System Using PID,Fuzzy Control And Adaptive PID  |
| *9* | 331 | A Hybrid FPGA and Machine Learning Framework for Enhancing Hearing Aid Performance |
| *10* | 400 | Multimodel Integration for FPGA based ECG Signal Processing |
| *11* | 669 | Development of a Prototype for the Analysis of Prolapsed Disc in Spinal Cord |
| *12* | 922 | QR-based Fernet Encryption and Decryption Framework for File Protection System ( QR-FEDF |
| *13* | 1047 | Improving Diagnosis of Kidney Related Type 2 Diabetes Patients using AI Enhanced Image Processing with Deep Learning and NeuroX Algorithmic Frameworks |
| *14* | 845 | IoT DRIVEN AUTOMATIC PUMP ACTIVATION AND LEAK DETECTION SYSTEM  |
| *15* | 1108 | Cost-Effective Emergency Communication System for Remote and Disaster Areas |
| *16* | 544 | Intelligent FPGA-Based Vending Machine: Enhancing Quality, Efficiency, and Sustainability in Automated Retail  |
| *17* | 1041 | Automated Attendance Monitoring System using Real-Time Facial Recognition and Python based Computer Vision Techniques |
| *18* | 836 | AI-DRIVEN PATIENT MONITORING AND MENTAL HEALTH ANALYTICS PLATFORM |

**Day – 07/08/2054 Time: 2.00 pm-4.00 pm Venue 7: CSE Lab II**

Chair: **Dr. P. Jenopaul,** Professor, Adi Shankara Institute of Engineering and Technology, Ernakulam

**Dr.Tibbie Pon Symon**. **VA**, Professor, Mar Baselios Institute of Technology and Science

Session Title/Area: **Energy and Electric Vehicles**

Faculty in Charge: **Prof.Harikrishnan R**, Assistant Professor, Baselios Mathews II College of Engineering, Kollam

Rapporter: Meenakshy M S, Vaishnavi S

| **Sl. No** | **Paper Id** | **Title** |
| --- | --- | --- |
| *1* | 122 | PERFORMANCE ENHANCEMENT OF HYBRID ELECTRIC VEHICLES USING THERMOELECTRIC AND PIEZOELECTRIC GENERATORS |
| *2* | 147 | Enhancing Electric Vehicle Charging Station Placement in Practical Power Distribution Networks |
| *3* | 192 | NOVEL SENSOR-BASED SYSTEM FOR ENSURING RIDER SAFETY IN BIKES |
| *4* | 347 | Performance Assessment of ANN-Integrated Battery Management In Electric Vehicle Using Simulation |
| *5* | 1002 | ARTIFICIAL INTELLIGENCE BASED ENERGY MANAGEMENT SYSTEM FOR INDUSTRY |
| *6* | 127 | Integrating IoT and Hybrid Energy for Sustainable Smart Irrigation Systems in Agriculture |
| *7* | 172 | Optimizing Hybrid Renewable Energy Sources and Grid Integration for Economic Analysis Using the Hunter-Prey Optimization Algorithm |
| *8* | 212 | Cloud-Integrated Smart Detection of Solar Panel Damage and Degradation  |
| *9* | 338 | ARIMA based Analysis of World Energy Consumption |
| *10* | 706 | Waste-to-Energy Conversion System for Efficient Power Generation and Environmental Sustainability |
| *11* | 810 | AI-Driven Synthetic Data Generation Platform for Voice, Text, and Image Augmentation |
| *12* | 890 | Cyber Risk Prediction Using Deep Learning |
| *13* | 938 | Towards Sustainable Urban Mobility: A Smart Traffic System Integrating IoT and Machine Learning |
| *14* | 1145 | ANN-Assisted Deep Learning Approaches and DNN Classifiers for Parkinson’s Disease (PD) Diagnosis and Prediction |
| *15* | 156 | Design of Type 2 Fuzzy Controller Technique for Voltage Sag mitigation using DVR |
| *16* | 709 | Demand Management for Residential Buildings:A Smart Approach to Energy Optimization |
| *17* | 712 | Harnessing Pedal Power: An Innovative Approach to Electricity Generation via Fitness Cycle |
| *18* | 952 | Enhanced PV-Based Wireless EV Charging With High Gain Z-Source Converter And Intelligent Optimized MPPT Control |

**Day – 07/08/2025 Time: 2.00 pm-4.00 pm Venue 8: CSE Seminar Hall**

Chair: **Dr.Menaka D,** Associate Professor, Noorul Islam Centre for Higher Education, Kanyakumari

**Dr Vasanth Kishore Babu**, Associate Professor, Chaitanya Bharathi Institute of Technology

Session Title/Area: **Image Processing**

Faculty in Charge: **Prof. Shyma S**, Assistant Professor, Baselios Mathews II College of Engineering, Kollam

Rapporter: Anupa Alex, Shreyas

| **Sl. No** | **Paper Id** | **Title** |
| --- | --- | --- |
| *1* | 167 | DETECTION OF PLASTIC WASTE IN OCEAN USING MACHINE LEARNING BASED BI- LSTM WITH TRIPLET ATTENTION MECHANISM |
| *2* | 179 | An Enhanced Approach to Detect Driver Drowsiness System Using Opencv and Keras  |
| *3* | 253 | Yoga Pose Detection and Classification using Machine Learning Techniques  |
| *4* | 298 | FPGA-Based Wild Animal Detection System Using Verilog: Advancing Surveillance and Mitigating Human-Wildlife Conflicts  |
| *5* | 311 | Automated Identification and Classification of Rice Plant Leaf Diseases by Combining CNN and SVM  |
| *6* | 316 | AI-Driven Pneumonia Detection: A Comparative Study of CNN-Based Architectures on Chest X-Ray Images |
| *7* | 330 | MEDICAL IMAGING USING FPGA AND MACHINE LEARNING |
| *8* | 334 | FPGA-Based Plant Health Monitoring System Using Image Processing and Automated Alarm Triggering |
| *9* | 336 | AI-Driven Human Recognition: Efficient Monitoring Frameworks  |
| *10* | 341 | Dynamic Image Generation with Deep Generative Artificial Neural Network |
| *11* | 365 | Efficient Deep Learning Framework for Leaf Disease Classification in Agriculture |
| *12* | 480 | AI Dermatology: An Enhanced Approach for Skin Disease Detection |
| *13* | 558 | Plant Disease Detection Using Convolutional Neural Network (CNN) |
| *14* | 566 | Developing an NLP-Powered Solution to Automate The Extraction and Summarization Of Medical Information From Unstructured Clinical Notes |
| *15* | 604 |  FPGA-Based Defect Detection in PCBs Using Image Processing |
| *16* | 628 | Detection Of Diabetic Retinopathy Using Deep Learning |
| *17* | 680 | Deep Learning Algorithms for Cloud-Based IOT Healthcare Systems |
| *18* | 684 | Empowering Farmers: Real-Time Coconut Tree Disease Detection and Management Using YOLOv8 and Machine Learning Technique |

**Day – 07/08/2025 Time: 2.00 pm-4.00 pm Venue 9: MBA Class I**

Chair: **Dr.Anil J,** Assistant Professor, Electrical and Computer Engineering, Mar Baselios College of Engineering and Technology, Thiruvananthapuram

Session Title/Area: **Image Processing**

Faculty in Charge: **Prof. Anu Varghese**, Assistant Professor, Baselios Mathews II College of Engineering, Kollam

Rapporter: Anandalekshmi, Gouri Krishna

| **Sl. No** | **Paper Id** | **Title** |
| --- | --- | --- |
| *1* | 1031 | Automated Bird Species Classification Using MFCC Features and Deep Neural Networks on the iBC53 Dataset |
| *2* | 1046 | 12 DOF Biped Robot Gait Dynamic Analysis and Optimization using Genetic Algorithm |
| *3* | 1098 | DL-Crypto: Deep Learning Techniques for Cryptocurrency Price Prediction |
| *4* | 1147 | Enhancing Home Automation with Arduino: A Multi-Sensor Approach to Security and Energy Savings |
| *5* | 360 | Detecting the Realtime Abnormal Human Behavior and Weapon Detection Using DenseNet Algorithm |
| *6* | 361 | AI Based Sign Language Interpreter |
| *7* | 442 | Mentor Connect Portal |
| *8* | 623 | LEAF DISEASE DETECTION USING DEEP LEARNING – VISION TRANSFORM |
| *9* | 722 | AI-Driven Detection of Malicious Network Intrusions Using Decision Tree Algorithm |
| *10* | 847 | LuxSense: Leveraging Machine Learning to Classify Streetlight Illumination Levels Using Geospatial and Infrastructure Data in Urban Streetlight Networks |
| *11* | 854 | Real-Time Medication Identification using Optical Character Recognition |
| *12* | 887 | BRAIN HEMORRHAGE DETECTION USING DEEP LEARNING |
| *13* | 166 | Optimizing Grid Stability and Power Quality through the UPQC- FLC-EVA Integration in Renewable Energy System |
| *14* | 259 | Analysis of simultaneous power quality issues compensation capabilities of custom power devices and their control systems |
| *15* | 268 | Analysis of transformer load balancing devices and their capabilities in EVSE connected distribution line  |
| *16* | 921 | Educational Hardware-in-the-Loop Platform for Testing Embedded Control Algorithms: A Case Study on PID vs. Fuzzy Logic |
| *17* | 937 | Image Processing Based Real Time Forest Fire Detection Using Raspberry Pi |
| *18* | 985 | Innovative Multiport Converter for Solar-Assisted Electric Vehicles: Enhanced Power Handling and High Efficiency with Minimal Components |

**Day – 07/08/2028 Time: 2.00 pm-4.00 pm Venue 10: MBA Class II**

Chair: **Dr. Rajesh K.P.,** Associate Professor and Head, ECE, JKKN College of Engineering and Technology, Kumarapalayam

Session Title/Area: **Neural Networks**

Faculty in Charge: **Prof. Arya Chandran**, Assistant Professor, Baselios Mathews II College of Engineering, Kollam

Rapporter: Nandana A, Anisha Mol

| **Sl. No** | **Paper Id** | **Title** |
| --- | --- | --- |
| *1* | 128 | Deployment of TensorFlow Lite for Real-Time Image Classification on Raspberry Pi: Performance Evaluation with CIFAR-10 and MNIST, and Implications for Power Generation |
| *2* | 207 | Image Label Generator for Disaster Management using Amazon Rekognition |
| *3* | 564 | DEMENTIA DETECTION IN MRI USING CNN CLASSIFIER |
| *4* | 815 | STELLARIS AI: Personalized AI for Smart Hiring |
| *5* | 872 | VISTA: Vision-Integrated Smart Tracking Assistant |
| *6* | 886 | Vehicle Detection and Parking Space Estimation using Spatial Analysis and Edge Computing for Temporary and Unorganized Lots |
| *7* | 893 | Reimagining Transformer Diagnostics: Synergizing Classical and Deep Learning Models for Health Evaluation |
| *8* | 977 | Optimizing Water Usage: Intelligent Irrigation via AquaSense |
| *9* | 1143 | Mining Reviews for Meaning: Understanding Customer Feedback with Data |
| *10* | 200 | Optimizing RTL-Based FPGA Designs for ECU Performance Enhancement: Impact of Hierarchical Flattening Using Xilinx Vivado |
| *11* | 329 | Integrating Verilog Simulation with Python Automation: A ModelSim and Colab Framework for FPGA Design and Analysis |
| *12* | 335 | Vedic -Optimized RISC-V Processor Design |
| *13* | 367 | Non invasive detection of Vitamin Deficiency using Machine Learning |
| *14* | 376 | Precise identification of Cardio Vascular Disease in advance using FCF and Relief Machine Learning Algorithm |
| *15* | 468 | Browser Extension for Instant Language Conversion for Video Audio |
| *16* | 576 | FSM-Based Control System for Wastewater Treatment Plant  |
| *17* | 602 | BLOCK CHAIN ENABLED ENERGY TRADING SYSTEM |
| *18* | 850 | Assessment and Electrodeposition of High-Quality Ni-based Thin Films: Enhancing High-Temperature Composites for Robotic Devices |

**ICCPCT 2025**

**TECHNICAL SESSION DETAILS**

**08-08-2025**

**Day – 08/08/2025 Time: 10.30 am-1.00 pm Venue 1: IQAC Room**

Chair: **Dr. Asha P**, Associate Professor, Sathyabama Institute of Science & Technology

Session Title/Area: **Artificial Intelligence**

Faculty in Charge: **Prof. Preethi B**, Assistant Professor, Baselios Mathews II College of Engineering, Kollam

Rapporter: Abhimanyu, Ivin Saji

| ***Sl. No*** | ***Paper Id*** | ***Title*** |
| --- | --- | --- |
| *1* | 154 | Enhanced Analysis and Implementation of Smart AI Integrated Traffic Light Control  |
| *2* | 225 | Transformative Ensemble Learning Strategies for Accurate Prediction of Drill and Volume Depths in Petroleum Engineering |
| *3* | 226 | AI-Based Analysis of Formation Heterogeneity and Drill String Dynamics in Hole Deviation Management |
| *4* | 227 | Forecasting Copper Stock Prices: A Novel Machine Learning Approach for Mining Market Analysis |
| *5* | 228 | AI-Powered Analysis Of Traditional Gold Mining In SUDAN: Unveiling Productivity, Resource Utilization, And Market Dynamics |
| *6* | 265 | AI-Powered Wheat Disease Detection: A CNN-Logistic Regression Framework |
| *7* | 266 | Smart Agriculture: CNN-RF Model for Automated Rice Blast Severity Detection |
| *8* | 276 | CARE CONNECT : Revolutionizing Healthcare through AI |
| *9* | 285 | Smart Real-Time Smoke Detection and Alert System for Improved Fire Safety and Prevention |
| *10* | 312 | Intelligent AI-Powered Virtual Assistant for Enhanced Task Automation and Personalized User Interaction |
| *11* | 319 | AI-Powered Defenses: A Machine Learning Approaches in Cybersecurity Threat Detection |
| *12* | 356 | Personalized AI-Enhanced Alumni Association Platform |
| *13* | 371 | HYBRID AI MODEL FOR FAKE PRODUCT REVIEW IDENTIFICATION |
| *14* | 373 | Deep Learning for Lane Discipline: AI-Powered Traffic Enforcement in Smart Cities |
| *15* | 401 | Enhance Your Productivity Through AI - Sahayak |
| *16* | 832 | Design and Analysis of 1-Bit Quantized Massive MIMO Beamforming for Sustainable 6G Wireless Systems |

**Day – 08/08/2025 Time: 10.30 am-1.00 pm Venue 2: EEE Seminar Hall**

Chair: **Dr.R.Kingsy Grace**, Associate Professor, Sri Ramakrishna Engineering College, Coimbatore

Session Title/Area: **Artificial Intelligence**

Faculty in Charge: **Prof. Priya Geevarghese**, Assistant Professor, Baselios Mathews II College of Engineering, Kollam

Rapporter: Nakshathra B V, Ananya H

| **Sl. No** | **Paper Id** | **Title** |
| --- | --- | --- |
| *1* | 425 | Smart Tutoring and Adaptive Learning - Leveraging AI to Personalize Education in Real-Time: A Model for Engaging, Individualized, and Effective Learning Experiences |
| *2* | 430 | Immersive Simulations for Smart Farming: VR and Digital Twins in Crop Diversification |
| *3* | 457 | BookXchange: An AI-Driven Book Trade Hub |
| *4* | 464 | "FitTrack: A Personalized Fitness Tracking Website Using Generative AI" |
| *5* | 469 | AuraCheck: An AI-Powered Platform for Real-Time Mental Health Insights and Support |
| *6* | 471 | Passion to Profession: AI-Personalized Career Paths for Aspiring Innovators |
| *7* | 546 | AI-Powered Promotional Content Generator: Banners for Targeted Campaigns |
| *8* | 553 | Parijana, an AI based humanoid agent that enhances consumer experience in insurance claims |
| *9* | 557 | Dehazing of Underwater Images Using Multiscale DehazeNet-50 Deep Learning Network |
| *10* | 580 | Advancements in Zero-Shot and Few-Shot Learning: Challenges and Future Directions  |
| *11* | 603 | AI QUIZ:INTELLIGENT MCQ GENERATION AND ASSESSMENT CHATBOT |
| *12* | 620 | AI-Driven Mock Interview: A Comprehensive Review of It’s Role in Candidate Preparation and Recruitment |
| *13* | 660 | Deep Learning Approaches for Early Detection of Alzheimer’s Disease Using MRI Scans |
| *14* | 667 | VGG-19-Based Deep Learning for Automated Skin Cancer Detection |
| *15* | 745 | Handling Out-Of-Order Events with Event Time Consistency Models  |
| *16* | 1227 | Exploring the Impact of MUMRI on Neuroimaging for Motor Neuron Disease Diagnosis and Management - A Comprehensive Overview |

**Day – 08/08/2025 Time: 10.30 am-1.00 pm Venue 3: Einstein Hall**

Chair: **Dr. Divya S.V.,** Professor, V.S.B College of Engineering Technical Campus

Session Title/Area: **Artificial Intelligence**

Faculty in Charge: **Prof. Gimy Joy**, Assistant Professor, Baselios Mathews II College of Engineering, Kollam

Rapporter: Ardra, Jobin

| **Sl. No** | **Paper Id** | **Title** |
| --- | --- | --- |
| *1* | 790 | Pneumothorax Disease Detection using Deep Learning |
| *2* | 794 | Federated Learning in Edge Computing: Advancements, Security Challenges, and Optimization Strategies  |
| *3* | 795 | Hierarchical Reinforcement Learning for Scalable Autonomous Systems: A Multi-Level Control Approach  |
| *4* | 842 | Dynamic Rotor Speed Control for Floating Offshore Wind Turbines under High Speed Based on Artificial Neural Network  |
| *5* | 852 | Sick: A Search Focused Android Launcher - Feature Analysis  |
| *6* | 867 | Intelligent Steganalysis: Leveraging Xception for Detecting Concealed Data |
| *7* | 876 | A Biometric Approach to Blood Group Detection via Fingerprint Analysis with ResNet |
| *8* | 884 | Bridging Minds and Machines: The Convergence of Human-Computer and Brain-Computer Interfaces |
| *9* | 885 | Automated Access Control System Using Biometric Authentication Technologies |
| *10* | 935 | Enhanced Security in Vehicular Ad-Hoc Networks Using Blockchain, Homomorphic Based Encryption, and Reinforcement Learning Model |
| *11* | 948 | Innovative Neural Network Control for Unified Power Quality Conditioner in Photovoltaic Systems Enhancing Grid Stability and Energy Efficiency  |
| *12* | 1038 | Beyond frames: A contextual deep learning approach for classroom action understanding |
| *13* | 1087 | Drug Inventory and supply chain Tracking system Using Blockchain |
| *14* | 1132 | NASNet-Driven Classification Framework for Accurate and Early Breast Cancer Diagnosis |
| *15* | 1133 | A Scalable and Accurate InceptionNet-Based Model for Advanced Breast Cancer Detection and Classification Using Medical Imaging |
| *16* | 1152 | Revolutionizing Education: The CourseSphere AI Platform for Personalized Learning  |

**Day – 08/08/2025 Time: 10.30 am-1.00 pm Venue 4: Civil Seminar Hall**

Chair: **Dr.Jayalekshmi M B,** Associate Professor, Noorul Islam Centre for Higher Education

Title/Area: **Blockchain technology, Soft computing, and Computer security**

Faculty in Charge: **Prof. Deepthy S**, Assistant Professor, Baselios Mathews II College of Engineering, Kollam

Rapporter: Nandana M S, Asha S

| **Sl. No** | **Paper Id** | **Title** |
| --- | --- | --- |
| *1* | 1153 | Energy-Efficient Automated Irrigation: A Solar-Powered Solution for Modern Agriculture |
| *2* | 1161 | Enhancing Accessibility in Banking Services for Visually Impaired Users Using Deep Learning |
| *3* | 1163 | Performance Analysis of Resonant DC/AC Converters for Induction Heating Applications |
| *4* | 744 | A Theoretical Framework for Autoscaling and Resource Allocation in Elastic Stream Processing |
| *5* | 928 | Accurate State Of Charge Estimation For Lithium-Ion Batteries In Electric Vehicles Using PSO-Optimized ANN Approach |
| *6* | 930 | Golden Eagle optimized Hybrid RNN-GRU Model for Stock Price Prediction: A Data-Driven Deep Learning Approach |
| *7* | 932 | Improving Manet Security using Crayfish Optimization and GRU-LSTM Classifier for Intrusion Detection and Prevention |
| *8* | 183 | Multilayered Security Approach for CI/CD Pipeline with Web Application Development |
| *9* | 737 | Deep Q-Learning for Autonomous Vehicle Navigation in Smart Mobility |
| *10* | 738 | Cybersecurity in IoT: Sequence-Based Threat Pattern Identification |
| *11* | 879 | Harnessing Natural Language Processing for Advancements in Cancer Research: A Systematic Review |
| *12* | 916 | Energy Management in PV Grid Systems with Whale Optimized PI Controller and IoT Monitoring |
| *13* | 942 | Advanced Speed Control of Induction Motors with Addax-Inspired Optimization Strategy for Robust Performance in Varying Load Conditions |
| *14* | 946 | Automatic Charging E-Vehicle Using Electrical Generator |
| *15* | 964 | Financial Fraud Detection Leveraging on Deep Learning  |

**Day – 08/08/2025 Time: 10.30 am-1.00 pm Venue 5: Mechanical Seminar Hall**

Chair: **Dr. Venkadesh, Professor**, V.S.B College of Engineering Technical Campus

**Dr. Mudita,** Assistant Professor, Chitkara University, Punjab

Session Title/Area: **Blockchain technology, Soft computing, and Computer security**

Faculty in Charge: **Prof. Anjali Nair**, Assistant Professor, Baselios Mathews II College of Engineering, Kollam

Rapporter: Gouri, Manna

| ***Sl. No*** | ***Paper Id*** | ***Title*** |
| --- | --- | --- |
| *1* | 180 | Prevention of Double Voting in E-Voting System Using Blockchain  |
| *2* | 991 | Synergy: A ceramic, construction, and home decor industry assistant smart mobile application with vendor search, verification, item purchase features  |
| *3* | 354 | Comparative study of chunking methods for Document Summarization |
| *4* | 379 | Comparative Study of Gain Enhancement in Circular Microstrip Patch Antennas Using Coaxial Feed and Parasitic Patch Techniques |
| *5* | 746 | Serverless RAG-Stream: A Cloud Pipeline for Efficient Real-Time Retrieval-Augmented Generation |
| *6* | 302 | Coupled Inductor Based Three Port High Gain DC to DC Converter for Renewable Energy Systems |
| *7* | 309 | Integrated DC to DC Converter for Renewable Energy Applications  |
| *8* | 911 | Adaptive Cybersecurity Framework for DDoS Mitigation Using a Dual LSTM with Secretary Bird Optimization Approach |
| *9* | 940 | A High-Efficiency Dual Boost Converter Approach to PV-Powered DSTATCOM for Reactive Power Compensation |
| *10* | 941 | Fire Hawk Optimized DVR Strategy for Improved Power Quality and LVRT Performance in PV-Connected Grid |
| *11* | 951 | Smart IoT-Enabled Electric Vehicle with Wireless Charging Integration |
| *12* | 305 | Wind Based DFIG Integrated Grid System Using Adaptive P&O Based MPPT Controller |
| *13* | 472 | Tune Together: An Interactive Space for Music collaboration and Learning using Generative AI |

**Day – 08/08/2025 Time: 10.30 am-1.00 pm Venue 6: CSE Lab I**

Chair: **Dr Vasanth Kishore Babu**, Associate Professor, Chaitanya Bharathi Institute of Technology

Session Title/Area: **Communication and Signal Processing**

Faculty in Charge: **Prof. Giji Sonia**, Assistant Professor, Baselios Mathews II College of Engineering, Kollam

Rapporter: Abhimanyu, Niranjana

| **Sl. No** | **Paper Id** | **Title** |
| --- | --- | --- |
| *1* | 133 | IoT-Enabled Underwater Wireless Communication for Seafarers |
| *2* | 888 | CLASSIFICATION OF DIABETIC RETINOPATHY USING DEEP CNN |
| *3* | 929 |  Hybrid Attention-Infused Ensemble Learning Model For EEG-Based Workload Assessment |
| *4* | 314 | FPGA Based Frequency Spectrum Plotter |
| *5* | 215 | Enhancing Coal and Rock Classification in Adverse Mining Conditions with Transfer Learning |
| *6* | 229 | Ensemble Learning for Accurate Mineral Structure Prediction using CONVNET and Material Data |
| *7* | 839 | AI-Powered Dynamic Spectrum Sharing In 5G Networks: A Federated Learning Approach |
| *8* | 915 | Explainable Deep Learning Framework for Histopathological Cancer Detection |
| *9* | 926 | Advanced Harmonic Mitigation in PV-Driven Grid through ANN-Controlled Universal Active Power Filter and Modified SEPIC Converter  |
| *10* | 1093 | Conversion of Conventional Vehicle to Electrical Vehicle |
| *11* | 1174 | Enhanced PSO based MPPT for Photovoltaic Systems Using Reinitialization under Irradiance Variations and Shading Conditions |
| *12* | 393 | A Novel Firefly Optimized P&O Based MPPT Controller for Single Phase Grid Connected PV System |

**Day – 08/08/2025 Time: 10.30 am-1.00 pm Venue 7: CSE Lab II**

Chair: **Dr.Muthukumar Paramasivan**, Professor, Department of Electrical and Electronics Engineering, Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences, Chennai, Tamil Nadu

Session Title/Area: **Energy and Electric Vehicles**

Faculty in Charge: **Prof.Harikrishnan R**, Assistant Professor, Baselios Mathews II College of Engineering, Kollam

Rapporter: Meenakshy M S, Vaishnavi S

| **Sl. No** | **Paper Id** | **Title** |
| --- | --- | --- |
| *1* | 303 | Interleaved PFC-SEPIC Converter Based Wireless Power Transfer For EV Charging System  |
| *2* | 394 | Hybrid PV-Fuel Cell Powered EV Charging System With Intelligent State-Of-Charge Monitoring And Control Using RNN |
| *3* | 627 | An Innovative Technique For Efficient Electric Vehicle Charge Scheduling System |
| *4* | 924 | RNN-Based Control Strategy for Grid Connected Hybrid Systems Integrating Renewable Energy Sources |
| *5* | 939 | Adaptive Machine Learning Frameworks Integrating LLMs and Knowledge Graphs for Tailored Education |
| *6* | 943 | Power Loss Minimization and Grid Stability Enhancement in IEEE 33-Bus Network using African Bison Optimization |
| *7* | 945 | A Hybrid Optimization Framework Using Aquila and Attention Residual Net for Intrusion Detection in Vanets |
| *8* | 1081 | AI and Plagiarism : Detection & Ethical Usage |
| *9* | 173 | Smart Commercial Building Energy Management Incorporating Demand Response with Solar Energy Integration and Battery Electric Vehicle Support |
| *10* | 392 | Enhanced Energy Harvesting and Efficient Power Management for Grid-Connected DC Microgrid Using Landsman Converter and Modified MPPT |
| *11* | 750 | Revolutionizing Waterway Maintenance: The Autonomous Lake Cleaning Ro-Boat |
| *12* | 912 | Enhanced Medical Image Analysis for Diabetic Eye Disease Detection Using RAM-Net Architecture |
| *13* | 917 | Hysteresis Controller Based PFC Controlled Three Phase Vienna Rectifier for PMSG Fed Wind Energy Conversion Systems |

**Day – 08/08/2025 Time: 10.30 am-1.00 pm Venue 8: CSE Seminar Hall**

Chair: **Dr.Ashwini A,** Assistant Professor, Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology

Session Title/Area: **Image Processing**

Faculty in Charge: **Prof. Shyma S**, Assistant Professor, Baselios Mathews II College of Engineering, Kollam

Rapporter: Anupa Alex, Shreyas

| **Sl. No** | **Paper Id** | **Title** |
| --- | --- | --- |
| *1* | 144 | Advancements in Deep Learning for Early and Accurate Lung Cancer Detection: Trends and Future Prospects |
| *2* | 153 | A Low Power Pipelined Multilayered Vasanth Sorting for the elimination of Outliers in images |
| *3* | 211 | Enhancing X-Ray Imaging: CNN and DWT-Based Noise Reduction for Lower Radiation Exposure |
| *4* | 217 | Beyond the Microscope: Enhancing Mineral Classification with Transfer Learning from Hand Specimen Images |
| *5* | 231 | A Deep Dive into Smart-Based Malnutrition Detection Using DenseNet-121 Deep Learning Algorithm |
| *6* | 243 | Intelligent Pneumonia Detection System: Leveraging Machine Learning and Medical Imaging for Early Diagnosis |
| *7* | 386 | Comparative Analysis of SwinFace, Hybrid Transformer-Sequencer, and Deep CNNs for Real-Time Gender and Age Prediction: Enhancing Accuracy and Sensitivity |
| *8* | 416 | Efficient Deep Learning for Detecting Alzheimer's Disease Staging: An Ensemble Strategy Using MobileNetV3 and ShuffleNetV2 |
| *9* | 465 | Crop Fungal Disease Prediction - Mobile Portal AI |
| *10* | 479 | Deep Learning-Driven Fire Detection Through Advanced Image Processing Techniques |
| *11* | 561 | MobileNetV3 Architecture Enhanced with Multi-Head Self-Attention for Precise Tomato Maturity Detection |
| *12* | 708 | Optimized Deep Learning Architecture with EfficientNet and with MixUp & CutMix for Robust Plant Disease Classification |
| *13* | 851 | Enhancing Railway Safety through AI-Driven Predictive Maintenance and Collision Avoidance System |

**Day – 08/08/2025 Time: 10.30 am-1.00 pm Venue 9: MBA Class I**

Chair: **Dr. Jeyasheela Y**, Associate Professor, NICHE Kanyakumari

Session Title/Area: **Image Processing & Neural Networks**

Faculty in Charge: **Prof. Anu Varghese**, Assistant Professor, Baselios Mathews II College of Engineering, Kollam

Rapporter: Anandalekshmi, Gouri Krishna

| **Sl. No** | **Paper Id** | **Title** |
| --- | --- | --- |
| *1* | 853 | CodeXpress: Realtime Collaborative Environment |
| *2* | 883 | Sentiment Analysis and Fake News Detection of Hindi and English News Articles |
| *3* | 905 | Fault Identification and Classification of Solar PV System |
| *4* | 908 | Artificial Intelligence based EEG Neurological Disorder Signal Abnormality Detection |
| *5* | 931 | A QHE-Based Security with Duck Swarm Optimized-Routing Topology for Trust and Privacy in Vehicular Ad Hoc Networks |
| *6* | 933 | Enhancing Signal Transmission in Multi-Band Communication Networks Using Optimized Deep Reinforcement Learning |
| *7* | 934 | Enhanced Chronic Kidney Disease Forecasting With Ant Bee Colony Optimized BILSTM -Transformer Model |
| *8* | 1045 | An Intelligent Predictive Model for Cyber Physical Systems: A Scalable Framework Using Internet of Medical Technology |
| *9* | 1099 | Robust Radio Tomographic Imaging under Sensor Location Uncertainty |
| *10* | 1113 | Privacy-Preserving Federated Learning for Big Data Analytics in Smart Healthcare |
| *11* | 1121 | Strain Net-Sparse Multi Attention Residual Transformer Network |
| *12* | 841 | Designing with Imagination: Real-Time UI Customization Using Generative AI in Multimedia Applications |
| *13* | 214 | Advancing Mining Operations with Predictive Insights and Quality through Deep Learning |

**Day – 08/08/2025 Time: 10.30 am-1.00 pm Venue 10: MBA Class II**

Chair: **Dr. P. Jenopaul**,Professor, Adi Shankara institute of engineering and technology

Session Title/Area: **Power Systems**

Faculty in Charge: **Prof. Arya Chandran**, Assistant Professor, Baselios Mathews II College of Engineering, Kollam

Rapporter: Nandana A, Anisha Mol

| **Sl. No** | **Paper Id** | **Title** |
| --- | --- | --- |
| *1* | 944 | Advanced MPPT Strategy and Interleaved SEPIC Converter for Efficient Hybrid Micro-grid with IoT Monitoring |
| *2* | 1135 | OmniScholar: An AI-Powered System for Researcher Profiling and Publication Analysis |
| *3* | 232 | Optimizing Rock and Mine Detection using Deep Learning and Advanced Classification Models |
| *4* | 287 | Intelligent Dynamic Routing and Optimization with Carbon Awareness for Sustainable and Efficient Network Management |
| *5* | 325 | Smart Irrigation System Using IoT Sensed Data with Improved GNN and MOA Model |
| *6* | 391 | Comparative Analysis of Hybrid Feature Selection and Ensemble Learning Techniques for Diabetes Prediction Using Health Indicators Data |
| *7* | 743 | A Secure and Privacy-Preserving Framework for Real-Time Data Streams in Telemedicine |
| *8* | 927 | Design and Control of a Z-Source-Based 7-Level Inverter for High-Performance Grid Applications |
| *9* | 527 | Ingredient-Based Nutrition Label Generator: An Automated Approach for Food Transparency |
| *10* | 1122 | Carbon Nanofiber Reinforced Polyurethane Nano-composite Blend as Anticorrosive Coatings |
| *11* | 216 | Advanced Machine Learning Approaches for Accurate Rock Type Classification and Comprehensive Analysis in Mining Using Geochemical Data |
| *12* | 218 | Advanced Machine Learning Techniques For Geochemical Profiling And Accurate Classification Of Igneous Rocks Based On Mineralogical Composition |
| *13* | 350 | Prudent: A Hotel Food Safety and Hygiene Checking Smartphone Application with Hotel Search, Problem Report, Inquiry Assistance |