

| CODE | TITLE | DESCRIPTION |
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| VTPAI01 | Artificial Neural Networks and Computer Vision's-Based Phyto- indication Systems for Variable Rate Irrigation Improving. | Improving the efficiency of water use is one of the main tasks facing the heads of farms today |
| VTPAI02 | Causal Artificial Intelligence for High-Stakes Decisions: The Design and Development of a Causal Machine Learning Model | High-stakes decision: used to describe a situation that has a lot of risk and in which someone is likely to either get or lose an advantage, a lot of money, etc |
| VTPAI03 | Challenging Artificial Intelligence with Multi-opponent and Multi- movement Prediction for the Card Game Big2 | Multi-opponent and Multimovement Prediction for the Card Game Big2 using Big2AI |
| VTPAI04 | Impact of Artificial Intelligence in COVID-19 Pandemic | By implementing the ML algorithms, found eight antibodies can be used to prevent the COVID-19 |
| VTPAI05 | Design and Development of Conversational Chatbot for Covid-19 using NLP: an AI application | AI chatbot for the purpose of evaluation, diagnosis and recommending immediate preventive as well as safety measures for patients who have been exposed to nCOV-19 |
| VTPAI06 | Artificial Intelligence Applications in K-12 Education | K-12 Education: Intelligent Tutoring Systems |
| VTPAI07 | A Density Peaks Clustering Algorithm with Sparse Search and K-d Tree | A Density Peaks Clustering Algorithm creation: using Sparse Search and K-d Tree used for different datasets |
| VTPAI08 | A Method to Automatic Create Dataset for Training Object Detection Neural Networks | This method proved that a dataset can be created automatically by using the data flow from object extraction to image synthesis |
| VTPAI09 | Data-Driven Artificial Intelligence Recommendation Mechanism in Online Learning Resources | Intelligent recommendation mechanism for online learning resources |

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| CODE | TITLE | DESCRIPTION | |
| VTPAI10 | Divergence-Based Transferability Analysis for Self-Adaptive Smart Grid Intrusion Detection with Transfer Learning | Intrusion Detection using Neural Network techniques | |
| VTPAI11 | Waste Collection and Transportation Supervision Based on Improved YOLOv3 Model | The collection which will cause the inferior performance of waste classification into four categories: open-full, open-empty, close-full and close empty | |
| VTPAI12 | Seizure Detection Based on Improved Genetic Algorithm Optimized Multilayer Network | Seizure Detection is a sudden, uncontrolled electrical disturbance in the brain | ICE |
| VTPAI13 | Real Time Landmark Detection for Within- and Cross Subject Tracking With Minimal Human Supervision | Allows for landmark detection based on only few examples and for definition of target landmarks after completed training without retraining | ARTIFICIAL INTELLIGENCE |
| VTPAI14 | Revealing Influence of Meteorological Conditions on Air Quality Prediction Using Explainable Deep Learning | Air Quality Prediction Using Explainable Deep Learning | ARTIFICIAL |
| VTPAI15 | A Binary Classification Study of Alzheimer's Disease Based on a Novel Subclass Weighted Logistic Regression Method | Alzheimer's Disease detection Based on a Novel Subclass Weighted Logistic Regression Method | 1 |
| VTPAI16 | A Robust Approach for Brain Tumor Detection in Magnetic Resonance Images Using Fine tuned EfficientNet | Brain Tumor Detection in MRI images | |
| VTPAI17 | An Exemplar Pyramid Feature Extraction Based Alzheimer Disease Classification Method | Alzheimer Disease Classification using MLP | |
| VTPAI18 | Breast Cancer Diagnosis Using Support Vector Machines Optimized by Whale Optimization and Dragonfly Algorithms | Breast Cancer Diagnosis | |



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|---------|--|---|-------------------------------------|--|
| VTPAI19 | Explainable Steel Quality Prediction System Based on Gradient Boosting Decision Trees | Steel Quality Prediction | IGENCE | |
| VTPAI20 | Detection of Stress in IT Employees using Machine Learning Technique | IT Employees Stress Detection | IAL INTELLI | |
| VTPAI21 | Thorax Disease Classification Based on Pyramidal Convolution Shuffle Attention Neural Network | Thoracic disease detection based on conditions of the heart, lungs, mediastinum, esophagus, chest wall, diaphragm and great vessels | IEEE 2022 - ARTIFICIAL INTELLIGENCE | |
| VTPAI22 | A General and Scalable Vision Framework for Functional Near- Infrared Spectroscopy Classification | We propose a general and scalable vision fNIRS framework that converts multi-channel fNIRS signals into multi-channel virtual images using the GADF | IEEE 20; | |
| VTPIP01 | An Encoder-Decoder Network for Automatic Clinical Target Volume Target Segmentation of Cervical Cancer in CT Images | Segmentation of Cervical Cancer | | |
| VTPIP02 | | Colon Polyp Segmentation: Most colon polyps are harmless. But over time, some colon polyps can develop into colon cancer | OCESSING | |
| VTPIP03 | Machine Learning and Image Processing Methods for Cetacean Photo Identification | Cetacea of aquatic mostly marine mammals that includes the whales, dolphins, porpoises, and related forms and that have a torpedo-shaped nearly hairless body detection | IEEE 2022 - IMAGE PROCESSIN | |
| VTPIP04 | Feasibility of Bone Fracture Detection Using Microwave Imaging | Bone Fracture Detection | IEEE 2022 - | |
| VTPIP05 | A Survey of Wound Image Analysis Using Deep Learning: Classification, Detection, and Segmentation | Deep learning in the field of wound image analysis, including classification, detection, and segmentation | | |



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| VTPIP06 | An Analysis on Ensemble Learning Optimized Medical Image Classification with Deep Convolutional Neural Networks | Medical Image Classification for colorectal cancer/ COVID-19/ Melanoma/ Diabetic retinopathy | |
| VTPIP07 | On the Deep Learning Models for EEG-Based Brain-Computer Interface Using Motor Imagery | Brain-Computer interface (BCI) is an emerging technology which can measure brain activity and convert it into artificial outputs | OCESSING |
| VTPIP08 | Plant Disease Detection and Classification Using Machine Learning Algorithm | Plant Disease Detection and Classification | IEEE 2022 - IMAGE PROCESSING |
| VTPIP09 | Privacy-Preserving Deep Learning with Learnable Image Encryption on Medical Images | Image Encryption on Medical Images for Brain Tumor | IEEE 2022 - |
| VTPIP10 | Unsupervised Meta Learning With Multiview Constraints for Hyperspectral Image Small Sample set Classification | A technique that analyzes a wide spectrum of light in image instead of just assigning primary colors (red, green, blue) to each pixel | |
| VTPNLP01 | An Interval Type-2 Fuzzy Ontological Similarity Measure | Fuzzy Sentence Similarity Measures (FSSM) are algorithms that can compare two or more short texts which contain fuzzy words and return a numeric measure of similarity of meaning between them | OCESSING |
| VTPNLP02 | An NLP-Inspired Data Augmentation Method for Adverse Event Prediction Using an Imbalanced Healthcare Dataset | The method generates synthetic patient records by replacing patient backgrounds with similar backgrounds | NGUAGE PRO |
| VTPNLP03 | Context-Driven Satire Detection With Deep Learning | Automatically detecting satire instances in short articles, in which vices, follies, abuses, and shortcomings are held up to ridicule, often with the intent of shaming or exposing the perceived flaws of individuals or other | I EEE 2022 - NATURAL LANGUAGE PROCESSING |
| VTPNLP04 | Exemplars-Guided Empathetic Response Generation Controlled by the Elements of Human Communication | Empathy: - the ability to understand Human Communication and share the RESPONSE feelings | IEEE 2022 - |



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| VTPNLP05 | Feature Selection for Location Metonymy Using Augmented Bag-of- Words | Location metonymy attempting to accurately classify whether the location is used literally or metonymically | 2 PROCESSING |
| VTPNLP06 | Measuring Social Solidarity During Crisis: The Role of Design Choices | We assess how social solidarity & anti solidarity towards migrants and refugees has changed before and after the onset of the COVID-19 pandemic | IEEE 2022 LANGUAGE PR |
| VTPNLP07 | Compilation, Analysis and Application of a Comprehensive Bangla Corpus KUMono | | NATURAL I |