



ACADEMIC LIVE PROJECTS 2024-25

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Project Code	Project Name	Objective
TCMAPY1296	A Semi-Supervised Learning Approach to Quality-Based Web Service Classification (Python/Machine Learning)	This project aims to create a semi-supervised learning framework for classifying web services based on quality. It utilizes both labeled and unlabeled data: labeled data guides classification, while unlabeled data improves generalization across diverse data distributions. The goal is to automate and enhance the evaluation of web service quality attributes effectively.
TCMAPY1370	Steel Surface Defect Detection (Python/Machine Learning)	The primary objective of this project is to develop an automated steel surface defect detection system that accurately identifies six distinct types of defects using the YOLOv8 model. Specific objectives include enhancing defect detection speed and precision to facilitate real-time applications, reducing the dependency on manual inspection to improve operational efficiency, and minimizing human error in quality control processes
TCMAPY1430	Unveiling Customer insights Advanced segmentation (Python/Machine Learning)	The main objective of this Project is to create an effective system for the customer segmentation and to add value to the organisation.
TCMAPY1440	Machine Learning Based Effective Fine Grained Weather Forecasting Model (Python/Machine Learning)	The objective of this project is to classify weather conditions into five categories—Cloudy, Overcast, Sunny, Foggy, and Rain—using machine learning techniques for accurate and efficient weather prediction.
TCMAPY1439	Gynecological Disease Diagnosis Expert System GDDDES Based on Machine Learning Algorithm and Natural Language Processing (Python/Machine Learning)	The primary objective of the Gynecological Disease Diagnosis Expert System (GDDDES) project is to develop an advanced diagnostic tool that leverages machine learning algorithms and Natural Language Processing (NLP) to accurately identify and diagnose common gynecological disorders, specifically Urinary Tract Infection (UTI) and Polycystic Ovary Syndrome (PCOS).
TCMAANI176	Explainable AI for crop Recommendation,yield Forecasting and Rainfall prediction in Smart Agriculture (Python/Machine Learning)	The primary objective of this project is to develop an integrated AI-based framework that provides accurate crop recommendations, yield forecasting, and rainfall prediction for smart agriculture.

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TCMAPY1397	Intrusion Detection System for Smart Vehicles Using Machine Learning Algorithms (Python/Machine Learning)	This project aims to develop a robust Intrusion Detection System (IDS) for smart vehicles using machine learning models to detect and mitigate cyber threats in vehicular networks. By leveraging the CAN-intrusion-dataset, it will classify attacks like DDoS, Fuzzy, and Impersonation, ensuring real-time, accurate threat detection and enhanced security.
TCMAPY1404	Smart system electricity power companies (Python/Machine Learning)	The primary objective of this project is to design and develop a smart system for electricity power companies that enhances the efficiency, reliability, and sustainability of electricity distribution networks.
TCMAPY1405	A Connectivity-Aware Graph Neural Network for Real-Time (Python/Machine Learning)	The primary objective of this project is to develop a real-time drowsiness detection system that accurately identifies signs of driver fatigue using advanced machine learning techniques.
TCMAPY1372	X-AI enabled hybrid approach for detection of cyber terrorism (Python/Machine Learning)	The primary objective of this research is to develop an X-AI enabled hybrid approach that enhances the detection and prevention of cyber terrorism activities.
TCMAPY1373	A Predictive Discrete Event Simulation For Predicting Operation Times In Container Terminal (Python/Machine Learning)	The primary objective of this study is to develop and evaluate a predictive discrete event simulation model for forecasting operation times in container terminals.
TCMAPY1387	Sentiment Analysis for YouTube Comment using AI (Python/Machine Learning)	Comments Sentiment Analysis: Extracts and classifies sentiments (positive, negative, or neutral) from comments retrieved via the YouTube Data API. Video Transcript Sentiment Analysis: Extracts video transcripts using the YouTube Transcript API and determines the sentiment of individual words or phrases.
	Unveiling Customer Insights Advanced Segmentation (Python/Machine Learning)	The main objective of this Project is to create an effective system for the customer segmentation and to add value to the organisation.
	Explainable AI For Crop Recommendation, Yield Forecasting And Rainfall Prediction In Smart Agriculture	The primary objective of this project is to develop an integrated AI-based framework that provides accurate crop recommendations, yield forecasting, and rainfall prediction for smart agriculture.

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	(Python/Machine Learning)	
TCMAPY1388	A Semi-Supervised Learning Approach To Quality-Based Web Service Classification (Python/Machine Learning)	The objective of this project is to develop an intelligent system that classifies web services into quality categories (Bronze, Silver, Gold, Platinum) using machine learning algorithms and Explainable AI (LIME). The system also recommends relevant services based on key performance metrics, aiming to improve service selection and decision-making accuracy
TCMAPY1375	Adaptive Monitoring For Early Stage Ransomware Detection Via Behaviour And Network Traffic Analysis (Python/Machine Learning)	The primary objective of this project is to develop an adaptive monitoring framework capable of detecting ransomware in its early stages through a combination of behavioral and network traffic analysis.
TCMAPY1379	Meditation Toxicity Forecasting Using Deep Learning (Python/Machine Learning)	This project aims to develop a deep learning-based model for predicting opioid prescription toxicity by analyzing a dataset of 25,000 records with 256 features. Using techniques like RNN, Random Forest, XGBoost, and Voting Classifiers, the goal is to identify high-risk prescribers and uncover patterns linking specific medications (e.g., Acetaminophen, Gabapentin, Levothyroxine) to increased toxicity, ultimately improving prescription safety and mitigating risks.
TCMAPY1384	Carbon Emission Prediction Through the Harmonization of Extreme Learning Machine and INFO Algorithm. (Python/Machine Learning)	Develop a predictive model for vehicle carbon emissions using ML techniques, enhancing accuracy through feature engineering and advanced algorithms.
TCMAPY1235	A Novel Web Framework for Cervical Cancer Detection System A Machine Learning Breakthrough (Python/Machine Learning)	This research introduces a novel web framework for cervical cancer detection using advanced machine learning techniques. It integrates AdaBoost, XGBoost, stacking classifier, and logistic regression models to improve diagnostic accuracy. The objective is to enhance early detection and intervention processes, aiming to improve patient outcomes in cervical cancer management.
TCMAPY1271	Active Machine Learning For Heterogeneity Activity Recognition Through Smartwatch Sensors	This project aims to create an efficient activity recognition system using smartwatch sensors. It leverages active machine learning to classify activities like walking, running, biking, and standing based on accelerometer and gyroscope

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	(Python/Machine Learning)	data. By reducing labeled data needs through active learning, it aims to lower labeling costs while continuously refining model performance
TCMAPY1224	An Ensemble Deep Learning Model for Vehicular Engine Health Prediction (Python/Deep Learning)	This project aims to develop an ensemble deep learning model combining Random Forest and KNN algorithms for predictive maintenance of vehicular engines. By leveraging Real-time sensor data and historical records, it seeks to enhance accuracy in identifying early signs of engine degradation, thus improving reliability and optimizing operational efficiency in automotive engineering.
TCMAPY1227	An Advanced Approach For Detecting Behavior-Based Intranet Attacks By Machine Learning (Python/Machine Learning)	The project aims to develop a sophisticated system using machine learning to identify and mitigate intranet attacks. By analyzing behavioral patterns and network data, it seeks to detect unauthorized access, data exfiltration, and malware infections. The goal is to enhance intranet security through real-time detection and response capabilities, safeguarding critical network assets effectively.
TCMAPY1238	Classifying Tor Traffic Encrypted Payload Using Machine Learning (Python/Machine Learning)	This study introduces a robust ML framework to classify encrypted Tor traffic payloads for cybersecurity enhancement. Using diverse features like Source Port, Destination Port, and IAT, Decision Tree, Logistic Regression, and XGBoost models are evaluated for accurately predicting traffic nature ('label'). It aims to optimize real-time encrypted traffic analysis for secure network environments.
TCMAPY1303	Explainable Data Driven Digital Twins For Predicting Battery States In Electric Vehicles (Python/Machine Learning)	This project aims to develop an advanced predictive model for electric vehicle battery states using Explainable Data-Driven Digital Twins. It integrates diverse machine learning algorithms (DNN, LSTM, CNN, SVR, SVM, FNN, RBF, RF, XGBoost) to accurately forecast SOC and SOH. Emphasis is placed on enhancing model transparency to optimize EV performance and support sustainable automotive technologies.
TCMAPY1326	Hybrid Machine Learning Model For Efficient Botnet Attack Detection In IOT Environment (Python/Machine Learning)	Developing a hybrid ML model for efficient botnet attack detection in IoT environments. Integrates diverse ML techniques to enhance detection accuracy, leveraging IoT-specific data characteristics. Aimed at improving cybersecurity by identifying and mitigating botnet threats effectively in IoT networks.

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TCMAPY1344	Machine Learning Based Diagnostic Paradigm in Viral and Non-Viral Hepatocellular Carcinoma (Python/Machine Learning)	The project aims to develop a machine learning-based diagnostic tool to accurately classify hepatocellular carcinoma into viral and non-viral types, enhancing diagnostic accuracy and supporting personalized treatment strategies.
TCMAPY1304	Machine Learning Algorithms for Forecasting and Categorizing Euro-to-Dollar Exchange Rates (Python/Machine Learning)	This project aims to enhance Euro-to-Dollar exchange rate forecasting by applying machine learning techniques, including neural networks and ensemble methods, to analyze historical data, improve prediction accuracy, and support informed financial decision-making.
TCMAPY1237	Open-Set Recognition in Unknown DDoS Attacks Detection With Reciprocal Points Learning (Python/Machine Learning)	This study introduces Reciprocal Points Learning for Open-Set Recognition in DDoS attack detection, using Passive Aggressive, Random Forest, and Decision Tree algorithms to enhance detection accuracy and robustness against evolving threats.
TCMAPY1299	PDF Malware Detection: Toward Machine Learning Modeling With Explainability Analysis (Python/Machine Learning)	This project develops a machine learning system to detect malware in PDF files, evaluating algorithms like Random Forest, SVM, AdaBoost, and DNN, aiming for high accuracy and interpretability to enhance cybersecurity.
TCMAPY1322	Predicting Hospital Stay Length Using Explainable Machine Learning (Python/Machine Learning)	The objective of this study is to develop and evaluate predictive models for hospital stay length using machine learning algorithms, including Logistic Regression, MLP, Random Forest, Gradient Boosting, and XGBoost. Additionally, the study aims to utilize explainability tools to interpret model predictions and identify the key determinants of hospital stay durations.
TCMAPY1236	Sensor Fusion And Machine Learning For Seated Movement Detection With Trunk Orthosis (Python/Machine Learning)	This study aims to enhance seated movement detection using trunk orthoses by comparing Decision Trees, Random Forests, and Stacking Classifiers with KNN, integrating IMU and EMG sensor data for improved accuracy and reliability.
TCMAPY1324	Transparency and Privacy The Role of Explainable AI and Federated Learning in Financial Fraud Detection (Python/Machine Learning)	This project advances financial fraud detection by integrating Explainable AI and Federated Learning, enhancing transparency and privacy. It compares traditional algorithms with newer methods to develop a robust, interpretable, and confidential system.

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TCMAPY1327	A Dynamic Selection Hybrid Model for Advancing Thyroid Care With BOOST Balancing Method (Python/Machine Learning)	This study aims to develop a Dynamic Selection Hybrid Model for thyroid disorder diagnosis, integrating Decision Trees, SVM, KNN, Random Forest, AdaBoost, and Gradient Boosting within an Adaptive Ensemble Framework to enhance diagnostic accuracy and adaptability.
TCMAPY1292	A Framework for LLM-Assisted Smart Policing System (Python/Machine Learning)	This research aims to develop a Smart Policing System framework using GPT-4 and XLNet to enhance predictive accuracy, real-time crime analysis, address ethical concerns, optimize resources, and adapt to modern policing challenges.
TCMAPY1230	An Improved Concatenation of Deep Learning Models for Predicting and Interpreting Ischemic Stroke (Python/Deep Learning)	The objective is to develop an enhanced ischemic stroke predictive model by integrating deep learning with traditional classifiers, improving accuracy, interpretability, and validating the effectiveness of this unified approach for stroke prediction.
TCMAPY1321	Applying Machine Learning Algorithms for the Classification of Sleep Disorders (Python/Machine Learning)	The project aims to develop a web-based machine learning system for classifying insomnia and sleep apnea using Stacking and Voting Classifiers, enhancing predictive accuracy and automating diagnosis with the Sleep Health dataset.
TCMAPY1222	Exploring Deep Learning and Machine Learning Approaches for Brain Hemorrhage Detection (Python/Deep Learning)	This project aims to develop a diagnostic model using ResNet and MobileNet to classify neuroimages into normal or stroke categories, enhancing accuracy and speed for early detection and improved patient outcomes.
TCMAPY1302	Multi-Class Adaptive Active Learning for Predicting Student Anxiety (Python/Machine Learning)	This study aims to enhance student anxiety prediction accuracy using Decision Tree, Stacking Classifier, KNN, Logistic Regression, XGBoost, Naive Bayes, and Random Forest, with Multi-Class Adaptive Active Learning for optimized model efficiency.
TCMAPY1290	Predicting Energy Demand Using Machine Learning Exploring Temporal and Weather-Related Patterns Variations and Impacts (Python/Machine Learning)	This project aims to use machine learning to predict energy demand by analyzing temporal and weather patterns, enhancing energy management, resource allocation, and planning, and showcasing the role of advanced techniques in managing fluctuating demand.

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TCMAPY1290	Product Helpfulness Detection With Novel Transformer Based BERT Embedding and Class Probability Features (Python/Machine Learning)	The objective is to integrate LSTM networks with BERT embeddings for product helpfulness detection, improving classification accuracy, providing confidence insights, and showcasing the LSTM, BERT model's superiority over traditional methods.
TCMAPY1016	Identification Of Fake Indian Currency Using Convolutional Neural Network (Python/Deep Learning)	The project aims to develop an advanced counterfeit detection system for Indian currency using CNNs (MobileNet, ResNet), hybrid models with SVM and Random Forest, enhancing accuracy and security against fraud.
TCMAPY1401	Interactive Web Application For Mental Well Being (Python/Deep Learning)	The objective of our project is to enhance physical and mental well-being by providing personalized yoga practice and emotional support. Using computer vision, machine learning, and a chatbot, it tailors yoga pose recommendations, and delivers supportive interactions based on user emotions.
TCMAPY1409	Smart Surveillance System Using Machine Learning (Python/Deep Learning)	Develop a scalable, real-time surveillance system using CNN and GRU to classify activities: Normal, Violence, Weaponized, enhancing security monitoring.
TCMAPY1410	Seamless Textual Version Using Deep Learning (Python/Deep Learning)	Develop a multilingual translation system using MarianMT, BERT, and OPUSMT, supporting Indian languages with speech-to-text and adaptive learning.
TCMAPY1411	Detecting Human Life During Fire (Python/Deep Learning)	Develop a real-time detection system using YOLOv8/YOLOv9 to identify humans, fire, smoke, enhancing safety with instant alerts.
TCMAPY1412	Real-Time Vehicle Detection From UAV Aerial Images (Python/Deep Learning)	Develop a real-time vehicle detection model for UAV images using BiFPN, Soft-NMS, and enhanced prediction for small-scale accuracy.
TCMAPY1368	Text Summarization (Python/Deep Learning)	This project uses deep learning models—LSTM, Llama, and BART—on the CNN/DailyMail dataset. The goal is to generate concise, readable summaries that maintain key information and improve accessibility across different domains.
TCMAPY1374	Predicting the stages of dementia using the OASIS dataset (Python/Deep Learning)	The primary objective of this study is to explore the potential of the OASIS dataset for predicting the stages of dementia using machine learning techniques.

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TCMAPY1435	Enhancing Victim Detection in Disaster Scenarios A YOLOv7 and YOLOv8 Performance Study (Python/Deep Learning)	The objective of this project is to develop an advanced victim detection system for rapid response in disaster scenarios, such as earthquakes, where timely identification of survivors is critical for saving lives. By leveraging state-of-the-art object detection models, YOLOv7 and YOLOv8, the project aims to evaluate their effectiveness in recognizing human bodies amidst debris and challenging post-disaster environments. The study focuses on comparing the models' accuracy, precision, recall, and real-time performance to identify the most efficient approach. Ultimately, the goal is to enhance disaster response capabilities through improved detection accuracy, enabling faster and more reliable rescue operations.
TCMAPY1436	Handwritten Text Recognition Using Deep learning (Python/Deep Learning)	The objective of this project is to develop an efficient and accurate handwritten text recognition system by leveraging a hybrid architecture combining Vision Transformers, MobileNet, and LSTM. The system aims to address challenges such as diverse handwriting styles, computational inefficiency, and real-time applicability. By achieving superior feature extraction, effective sequence modeling, and reduced computational costs, the project seeks to provide a robust solution for real-time recognition in applications like document digitization, form processing, and automated handwriting analysis.
TCMAPY1381	Deep-IDS A real time intrusion detector for iot nodes using deep learning (Python/Deep Learning)	The primary objective of this project is to develop Deep-IDS, a real-time intrusion detection system for Internet of Things (IoT) nodes, utilizing advanced deep learning techniques to enhance network security.
TCMAPY1438	End-To-End Speech Emotion Recognition With Gender Information (Python/Deep Learning)	The objective of this project is to design a robust Speech Emotion Recognition (SER) system that accurately detects emotions in speech using raw audio data while incorporating speaker gender information to enhance recognition accuracy. This system aims to overcome the limitations of traditional SER models, which depend heavily on pre-selected acoustic features and often overlook subtle emotional cues. By utilizing a Residual Convolutional Neural Network (R-CNN), the model will directly extract meaningful emotional

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		patterns from the raw speech signal, reducing the need for manual feature selection and capturing nuanced emotional expressions.
TCMAPY1285	Prediction Of Cardiovascular Diseases With Retinal Images Using Deep Learning (Python/Deep Learning)	The project develops a deep learning model using CNNs and MobileNet to predict cardiovascular diseases from retinal images, offering an accurate, efficient tool for early detection and improving patient outcomes.
TCMAPY1291	Tomato quality classification (Python/Deep Learning)	The "Tomato Quality Classification" project uses CNNs and MobileNet to classify tomatoes as healthy or rejected, enhancing quality control and operational efficiency in agriculture through automated, accurate classification.
TCMAPY1391	Optimized Brain Tumor Detection: A Dual-Module Approach for MRI Image Enhancement and Tumor Classification (Python/Deep Learning)	Develop a deep learning framework for brain tumor detection and segmentation in MRI images using MobileNet and DenseNet architectures.
TCMAPY1288	Novel Transfer Learning Based Deep Features for Diagnosis of Down syndrome in Children Using Facial Images (Python/Deep Learning)	The study develops a non-invasive diagnostic tool for early Down syndrome detection using facial images, integrating VNL-Net with MobileNet + SVM, enhancing accuracy and efficiency for mobile and edge devices.
TCMAPY1357	Fish Target Detection Using YOLOv9 and faster RCNN (Python/Deep Learning)	This project aims to develop a highly accurate and efficient system for underwater fish detection using YOLOv9 and Faster R-CNN, focusing on real-time processing and challenging conditions. By comparing these models' performance, the project seeks to contribute to marine biology and conservation efforts through improved monitoring of aquatic life.
TCMAPY1359	Enhanced Lumbar Disease Classification Through Hybrid Deep Learning Methods	This project develops an automated lumbar disease classification system using advanced models like MobileNet, DenseNet, CNN-SVM, and an involution-based VGG, aiming for real-time, accurate, and efficient healthcare diagnosis. Is this conversation helpful so far?
TCMAPY1288	Predicting Energy Demand Using Machine Learning Exploring Temporal And Weather-Related Patterns Variations And Impacts. (Python/Machine Learning)	The objective of this project is to leverage machine learning algorithms to accurately predict energy demand by analyzing temporal and weather-related patterns.

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TCMAPY1298	Gynecological Disease Diagnosis Expert System GDDDES Based on Machine Learning Algorithm and Natural Language Processing (Python/Machine Learning)	The primary objective of the Gynecological Disease Diagnosis Expert System (GDDDES) project is to develop an advanced diagnostic tool that leverages machine learning algorithms and Natural Language Processing (NLP) to accurately identify and diagnose common gynecological disorders, specifically Urinary Tract Infection (UTI) and Polycystic Ovary Syndrome (PCOS).
TCMAPY1300	Parkinson's Disease Detection (Python/Machine Learning)	Develop a deep learning model using CNNs, SVMs, and Random Forests to analyze speech features for early Parkinson's Disease detection, improving diagnostic accuracy and aiding clinical decision-making.
TCMAPY1265	5G Coverage Prediction Identification of Dominant Feature Parameters and Prediction Accuracy (Python/Machine Learning)	Conduct a comparative analysis of machine learning algorithms to predict 5G coverage using RF Signal Data. Benchmark models like Logistic Regression, KNN, SVM, and CNN to identify the most accurate, efficient model.
TCMAPY1263	Innovations in Stroke Identification: A Machine Learning-Based Diagnostic Model Using Neuro images (Python/Machine Learning)	This project aims to develop a diagnostic model using ResNet and MobileNet architectures to classify neuroimages, enhancing stroke diagnosis accuracy and speed for early detection and timely intervention.
TCMAPY1069	Rumor source identification from social network (Python/Machine Learning)	This study proposes a novel method for tracing the origins of rumors within social networks. By combining advanced machine learning techniques with network analysis, the approach aims to enhance the accuracy of identifying the sources of misinformation.
TCMAPY1302	Multi-Class Adaptive Active Learning for Predicting Student Anxiety (Python/Machine Learning)	The topic of predicting student anxiety using a multi-class adaptive active learning framework was chosen due to the increasing recognition of mental health's critical role in educational success and overall well-being.
TCMAPY1303	Explainable Data Driven Digital Twins for Predicting Battery States in Electric Vehicles (Python/Machine Learning)	The primary objective of this project is to develop an explainable data-driven digital twin model that accurately predicts key battery states, specifically state of charge (SOC) and state of health (SOH), in electric vehicles (EVs).
TCMAPY1304	Machine Learning Algorithms for Forecasting and Categorizing Euro-to-Dollar Exchange Rates (Python/Machine Learning)	The primary objective of this project is to evaluate the performance of various machine learning algorithms, including AdaBoost, Gradient Boosting, Bagging, XGBoost, and Decision Tree Classifier, in forecasting and categorizing Euro-to-Dollar exchange rates.

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TCMAPY1305	Leveraging Social Network Analysis for Influencer Identification A Data Perspective (Python/Machine Learning)	Integrate Social Network Analysis with machine learning to enhance influencer identification, using K-means clustering for user segmentation, evaluating network features, and analyzing patterns to refine marketing strategies and improve accuracy.
TCMAPY1306	Machine Learning for fuel Consumption Prediction (Python/Machine Learning)	Develop a machine learning system to predict fuel consumption and classify driving profiles (Sporty, Eco, Calm, Normal, Aggressive) using ECU data, comparing algorithms to optimize performance and fuel efficiency.
TCMAPY1307	Predicting Credit Card Fraud Detection Using Machine Learning (Python/Machine Learning)	The primary objective of this study is to enhance the accuracy and efficiency of credit card fraud detection systems by leveraging advanced machine learning algorithms. Credit card fraud remains a critical challenge for financial institutions due to the increasing sophistication of fraudulent activities. Traditional fraud detection methods often fall short in addressing these evolving threats,
TCMAPY1308	Enhancing Medicare Fraud Detection Through Machine Learning Addressing Class Imbalance With SMOTE-ENN (Python/Machine Learning)	To Develop a classification system for Medicare claims into Fraud and Non-Fraud categories by addressing class imbalance using the Synthetic Minority Over-sampling Technique (SMOTE) combined with Edited Nearest Neighbors (ENN), to enhance the detection accuracy of fraudulent claims within the dataset
TCMAPY1343	Machine Learning Based Assessment of Mental Stress using Wearable Sensor Data (Python/Machine Learning)	The primary objective of this project is to develop a machine learning-based model that can assess and classify mental stress levels using data from wearable sensors
TCMAPY1344	Machine Learning Based Diagnostic Paradigm in Viral and Non-Viral Hepatocellular Carcinoma (Python/Machine Learning)	The primary objective of this project is to develop a robust machine learning-based diagnostic tool to accurately classify hepatocellular carcinoma (HCC) into viral and non-viral categories.
TCMAPY1345	UPI Fraud Detection Using Machine Learning (Python/Machine Learning)	The primary objective of this project is to develop an effective fraud detection system for Unified Payments Interface (UPI) transactions by analyzing critical transaction

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		details such as the bank book name, transaction ID, and transaction amount.
TCMAPY1346	smartsentry cyber threat intelligence in iiot (Python/Machine Learning)	The objective of the SmartSentry project is to develop a robust Cyber Threat Intelligence (CTI) framework specifically designed for Industrial Internet of Things (IIoT) environments. The framework aims to enhance the security and resilience of critical infrastructure by leveraging advanced machine learning and deep learning techniques
TCMAPY1347	Machine Learning Approaches for Accurate Rainfall Prediction and preparedness (Python/Machine Learning)	The primary objective of this project is to evaluate and compare multiple machine learning algorithms for their effectiveness in predicting rainfall patterns based on historical weather data. By utilizing a dataset comprising diverse climatic features—such as temperature, humidity, wind speed, and atmospheric pressure—the project aims to identify the algorithms that yield the highest accuracy in forecasting rainfall events.
TCMAPY1351	Time Series Analysis For Bitcoin Price Prediction Using Prophet (Python/Machine Learning)	This project performs a time series analysis to predict Bitcoin prices, comparing RNN, LSTM, ARIMA, and Prophet models, aiming to improve prediction accuracy and support informed trading decisions in volatile markets.
TCMAPY1356	You Are What You Buy Personal Information Extraction From Anonymized Data (Python/Machine Learning)	This project aims to analyze the relationship between consumer purchasing behavior and personal attributes (education, marital status, income) using anonymized data and machine learning models like Gradient Boosting, Random Forest, SVM, and DNN. The goal is to predict individual characteristics based on purchasing patterns to inform targeted marketing and enhance personalized consumer experiences while ensuring data privacy.
TCMAPY1364	Deep Ensemble Learning With Pruning for DDoS Attack Detection in IoT Networks (Python/Machine Learning)	The main idea of this project is to determine whether network traffic is indicative of a DDoS attack or normal activity based on an analysis of various network flow features.
TCMAPY1354	El nino La nina (Python/Machine Learning)	To classify ENSO phases (El Niño, La Niña, Normal) using machine learning and forecast future ONI values with deep learning models, improving climate prediction and preparedness for global weather impacts.
TCMAPY1355	Novel Sentiment Majority Voting Classifier and Transfer Learning-Based Feature Engineering for Sentiment Analysis of Deepfake Tweets	The objective of this study is to develop a sentiment majority voting classifier for deepfake tweets using transfer learning-based feature engineering, specifically by leveraging a pre-trained BERT model and Random Forest classifier. Additionally, the research aims to evaluate the model's performance through metrics such as Accuracy, Precision,

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		Recall, and F1-Score while identifying key features that influence classification.
TCMAPY1314	Decentralized Traceability And Direct Marketing Of Agriculture Supply Chains (python/cloud)	This project enhances aspect-based sentiment analysis by evaluating DeBERTa, PaLM, and GPT-3.5-Turbo models across review domains, aiming to improve accuracy, address domain specificity challenges, and guide future ABSA research and development.
TCMAPY1349	On the Security of Secure Keyword Search and Data Sharing Mechanism for Cloud Computing (python/cloud)	This project critically evaluates Ge et al.'s CPAB-KSDS scheme, identifying security vulnerabilities in IND-CKA reductions and developing an attack to demonstrate weaknesses, enhancing understanding of ABPRE encryption robustness.
TCMAPY1026	An Efficient Privacy-Preserving Public Auditing Protocol for Cloud-Based Medical Storage System (python/cloud)	Develop a privacy-preserving public auditing protocol for cloud-based medical storage in smart healthcare, supporting batch auditing and dynamic updates to reduce costs and improve efficiency for data management and auditing.
TCMAPY1360	Stub Signature Based Efficient Public Data Auditing System Using Dynamic Procedures in Cloud Computing	This project develops a partial signature-based data auditing system for cloud storage, leveraging homomorphic encryption and hash functions to enhance privacy, accuracy, and support dynamic data operations with minimal computational overhead.
TCMAPY1353	A Lightweight Image Encryption Algorithm Based on Secure Key Generation (python/cloud)	This research develops an enhanced AES algorithm with innovative key generation, dynamic substitution boxes, and circular permutation, aiming to improve data security and efficiency, especially for IoT and edge-fog-cloud systems.
TCMAPY1311	Concise and Efficient Multi-Identity Fully Homomorphic Encryption Scheme (python/cloud)	Our research develops a Multi-Identity Based Fully Homomorphic Encryption (MIBFHE) system, integrating MKFHE with Identity-Based Encryption (IBE) to enhance efficiency, security, and scalability for encrypted data computations, reducing computational overhead and simplifying key management.
TCMAPY1252	Deduct: A Secure Deduplication Of Textual Data In Cloud Environments (python/cloud)	The "DEDUCT" project develops a secure cloud data deduplication system using AES encryption to enhance storage efficiency by 90-95%, protect data confidentiality, and define roles for secure file management and audits.
TCMAPY1242	Dynamic Searchable Symmetric Encryption With Strong Security And Robustness (python/cloud)	This project develops and evaluates SR-DSSE and SR-DSSE b Dynamic Searchable Symmetric Encryption schemes to enhance keyword search robustness and security in

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		encrypted cloud data, ensuring correctness and confidentiality in healthcare contexts.
TCMAPY1281	Expressive Public-Key Encryption With Keyword Search: Generic Construction From KP-ABE and an Efficient Scheme Over Prime-Order Groups (python/cloud)	This paper critically assesses the security of expressive public-key encryption with keyword search (PEKS) schemes, revealing a keyword guessing attack vulnerability, and aims to improve resilience in cloud data privacy encryption schemes.
TCMAPY1281	Improving Digital Forensic Security: A Secure Storage Model With Authentication and Optimal Key Generation Based Encryption (python/cloud)	This paper develops DFA-AOKGE, a secure digital forensic architecture for IaaS, using decentralized storage, multikey homomorphic encryption, and advanced key generation to enhance evidence protection and integrity during investigations.
TCMAPY1	PEEV: Parse Encrypt Execute Verify—A Verifiable Fhe Framework (python/cloud)	The PEEV framework enhances cloud data confidentiality by enabling secure, remote computation on encrypted data using homomorphic encryption and zero-knowledge proofs, simplifying program writing, verification, and protecting against dishonest providers.
TCMAPY1245	Privacy-Preserving and Trusted Keyword Search for Multi-Tenancy Cloud (python/cloud)	This study designs and implements a privacy-preserving, verifiable, and accountable keyword searchable encryption (VAKSE) scheme for multi-tenant clouds, ensuring secure keyword searches, data privacy, and efficient parallel processing.
TCMAAN1153	Multi-Keywords Searchable Attribute-Based Encryption With Verification and Attribute Revocation Over Cloud Data (python/cloud)	Develop and evaluate MKSABE-VaAR, an encryption system for efficient multi-keyword searches in cloud storage, using polynomial keyword combinations, user attribute verification, and linear secret-sharing for enhanced security and performance.
TCMAAN1156	A Pairing Free Provable Public Key Dual Receiver Encryption Scheme (python/cloud)	Develop a Dual Receiver Encryption (DRE) scheme using decisional Diffie-Hellman for enhanced efficiency and public verifiability, offering strong security against chosen ciphertext attacks and reduced computational complexity.
TCMAAN1157	Revolutionizing Cloud Data Security with Elliptic Curve Cryptography. (python/cloud)	Enhance cloud data security by implementing Elliptic Curve Cryptography (ECC) to provide robust encryption with lower computational and energy requirements, improving efficiency and security in cloud-based systems.

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Surekha

5.0 ★★★★★

5 star to the company for its outstanding support, new technology & support



Shahaed

4.5 ★★★★★

Very nice project support, the explanation with the kit were very useful and easy to understand...



Madhu Sudan Reddy

5.0 ★★★★★

You guys always come up with exciting new technologies...impressive!! Keep it up...

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