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Babu Banarasi Das Northern India Institute of Technology

Department of Information Technology

4th-Year Student Best Project (2025-26)

S.No.	Session	University Roll No	Student Name	Project Supervisor	Project Title	Abstract
1	2025-26	2200560130044	RUCHIT AGARWAL	Mr. Yogesh Sharma	Enhancing the automatic waste detection technique by using hybrid model of CNN-LSTM	Research suggests the creation of the automated system of separating biodegradable and non-biodegradable waste on a hybrid convolutional neural network-long short-term memory (CNN-LSTM) framework. Visual data acquired at various locations are analyzed by a CNN to categorically label litter, either as biodegradable or non-biodegradable, and the network has the ability to separate the visual texture, form, and color.
2		2200560130057	SWAYAM PANDEY			
3		2200560130058	TAIYUR ALAM			
4		2300560139003	HIMANSHU KUMAR SINGH			
5	2025-26	2200560130009	ANJALI YADAV	Ms. Neelam Chakravarti	AI powered early detection and lifestyle recommendation for PCOS/PCOD	The purpose of this study is to create a predictive model based on AI that constantly learns to allow identifying PCOS/PCOD in the initial phases of its development and offer the most personalized lifestyle suggestions. A majority of the digital healthcare tools available are not really personalized, behaving visually according to user behavior, and are cheap and do not have the ability of managing their lifestyles holistically. In order to address these gaps, the proposed study introduces a hybrid system, which will integrate both the benefits of a form of Machine Learning (ML) to forecast the absolute risk in the initial stages and the benefits of Reinforcement Learning (RL) to optimize lifestyle in a dynamic and adaptive manner.
6		2200560130014	ARUSHI THAKUR			
7		2200560130041	RENU KUMARI PRAJAPATI			
8	2025-26	2200560130029	MOHAMMAD ANAS	Ms. Priya Sharma	GeoSentinel: A hybrid AI framework for a hybrid frequency geopolitical tension index	This work proposes a novel, state-of-the-art framework for a Geopolitical Tension Index (GPTI) that fuses real-time narrative analysis with verified kinetic event data, specifically tailored to the India-Pakistan dyad. Traditional methods for measuring geopolitical risk often lack the nuance to capture the multifaceted nature of modern conflict, which unfolds simultaneously in both the physical and informational domains. To address this gap, this research introduces a two-pillar conceptual architecture. The first pillar, Military and Conflict Tension (MCT), provides an objective measure of kinetic events by systematically processing data from the Armed Conflict Location and Event Data Project. The second pillar, Intelligent Narrative Tension (INT), gauges the sentiment and relevance of the information environment by analyzing a high-volume stream of multi-source text data.
9		2200560130030	MOHD ARSHAD			

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1	2024-25	2100560130002	ABHISHEK TIWARI	Dr. Ram Pratap	CropConnect - Connecting Farmers to Markets	Blockchain-based future contracts offer farmers price assurance and improved bargaining power via aggregated marketing. IoT complements blockchain by providing real-time data on soil health, crop conditions, and environmental parameters to optimize resource use and precision agriculture. This paper presents the design, implementation, and validation of CropConnect, a blockchain-powered trading platform for contract farming. The platform integrates secure trust mechanisms, social capital evaluation, and future market integration to mitigate risks, reduce transaction costs, and foster transparency.
2		2100560130024	SHUBHAM KUMAR CHAUDHARY			
3	2024-25	2100560130001	ABHISHEK SINGH	Ms. Neelam Chakravarti	Animal Detection on Railway Track	The purpose of the Railway Track Tracer System for Detecting Brutes is to detect animals on road lines. This system will help in precluding multitudinous incidents that are on-road tracks. This system primarily emphasizes certain fields where Beings are constantly observed on the train tracks. In certain regions, mammoths constantly cut the road tracks. This system regularly keeps track of the road lines with a camera, enabling the easy discovery of creatures present, and also needed measures can be enforced to forestall incidents. The system comprises a camera, a train monitoring system, and an alert operation.
4		2100560130013	AYAN KHAN			
5		2100560130020	RAJAN VERMA			
6		2100560130023	SAMAR AHSAN			
7	2024-25	2100560130006	AMAN TIWARI	Mr. Yogesh Sharma	Soil Testing and Crop Prediction using ML	The results of a thorough investigation of the use of machine learning algorithms for yield estimation, nutrient advice, and crop suitability prediction in agricultural settings are presented in this research. Three different machine learning models—Linear Regression, Random Forest Regression, and Decision Tree Regression—were assessed using a broad dataset that included variables like soil type, climate, past yield data, and nutrient levels. To evaluate each model's performance in yield estimation, crop suitability prediction, and nutrient recommendation, it underwent rigorous training and testing. The efficacy of the models was assessed using performance indicators such as mean squared error (MSE), mean absolute error (MAE), recall, accuracy, and precision.
8		2100560130011	ATHARV GUPTA			
9		2100560130014	DEVANSH SRIVASTAVA			

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4th-Year Student Best Project (2023-24)

S.No.	Session	University Roll No	Student Name	Project Supervisor	Project Title	Abstract
1	2023-24	2000560130050	SHREYA RAI	Dr. Ram Pratap	WEB 3.0 CROWDFUNDING DAPP	The advent of Web3.0 technologies has transformed the landscape of crowdfunding, ushering in a new era of decentralized and transparent fundraising mechanisms. Blockchain-based crowdfunding, often referred to as "tokenized crowdfunding" or "crowdsale on blockchain," leverages blockchain technology to facilitate and enhance the fundraising process. This innovative approach has gained traction for its potential to address issues associated with traditional crowdfunding methods, introducing elements of decentralization, transparency, and security.
2	2023-24	2000560130036	NITIN PRAJAPATI	Dr. Bhawesh Kumar Thakur	BRAIN TUMER SEGMENTATION & DETECTION USING DEEP LEARNING AND CNN	Brain tumors represent a significant global health challenge, affecting approximately one million individuals worldwide in 2023. This study evaluates the efficacy of the object detection algorithm for the detection and categorization of brain tumors using MRI images. The evaluation utilized a dataset of MRI images from different patients, covering three primary brain tumor types: Pituitary, Meningioma, and Glioma. The model demonstrated robust performance, with general high precision, recall, and mAP values on the validation dataset. Notably, the model effectively differentiated between the various brain tumor types and background, as evidenced by the normalized confusion matrix.
3		2000560130038	RAJ GUPTA			
4		2000560130047	SHIVAM SINGH			
5	2023-24	2000560130039	RAJ SRIVASTAVA	Ms. Shaba Irram	PNEUMONIA DETECTION	Pneumonia, a serious lung infection caused by bacteria or viruses, can be difficult and prone to errors to diagnose from chest X-ray images because of their similarities to other lung infections. The purpose of this project is to develop a computer-aided pneumonia detection system to speed up the diagnosis process. An ensemble Convolutional Neural Network (CNN) approach is proposed for the automated diagnosis of pneumonia. In this study, a chest X-ray dataset was used to train seven well-known CNN models, namely VGG-16, VGG-19, ResNet-50, Inception-V3, Xception, MobileNet, and SqueezeNet, using transfer learning and fine-tuning techniques.
6		2000560130040	RAMAN KUMAR			
7		2000560130045	SHIVAM PANDEY			

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