

Activity Report (news bulletin) of IT Dept. for May 2024

1. Expert Lecture/Seminar/Courses Organized by Department during May 2024: **NIL**

2. Papers Presented/Published in the Journal by Staff during May 2024:

Title of Paper: Nutritional Analysis using Deep Learning: A Revolution in Understanding Dietary Patterns.

Name of Journal: The Indian Journal of Technical Education, ISTE

Volume and Issue: Volume 47, Special Issue No.1, March 2024

ISSN Number: 0971-3034

Names of Authors: Prof. Pragati Pandit, Prof.Nagama Kazzi

Abstract: Nutritional analysis using deep learning represents a ground-breaking approach to understanding and managing dietary patterns in the modern era. This essay explores the advancements and challenges in this field. Traditional methods of dietary assessment, fraught with subjectivity and error, have given way to the precision and convenience offered by deep learning. Deep learning models, such as Convolutional Neural Networks (CNNs) and Recurrent Neural Networks (RNNs), excel in image-based food recognition and nutrient prediction, enabling real-time tracking, personalized nutrition recommendations, and improved dietary planning. However, challenges persist, including data quality, portion estimation, privacy concerns, and regulatory considerations. Despite these obstacles, deep learning applications are already making significant impacts, from dietary monitoring apps to clinical nutrition and public health initiatives. The future holds promise, with efforts underway to enhance data quality, interpretability, cultural sensitivity, and ethical considerations. In conclusion, deep learning in nutritional analysis offers a transformative pathway to healthier lives, demanding continued research, and ethical considerations for its widespread adoption.

Keywords: Nutrition, Deep Learning, Dietary Assessment, Food Recognition, Nutrient Prediction, Image Analysis, Food Industry, Clinical Nutrition, Personalized Diet, Regulatory Frameworks.

3. Papers Presented by Students during May 2024:

Title of Paper: Integrated Real Time Traffic Analysis System

Name of Journal: International Journal of Creative Research Thoughts (IJCRT)

Volume and Issue: Volume 12, Issue 5 May 2024

ISSN Number: 2320-2882

Names of Authors: Akshay Chavan BE (IT), Shivam Chavan BE (IT), Aditya Parkhe BE (IT), Abhishek Patil BE (IT) and Prof.Smita Chaudhari

Abstract: The rapid boom of urbanization and transportation demands has considerably elevated complexity of coping with visitors gliding on highways. This mission introduces a progressive real-time machine that integrates car counting, classification, vehicle type, and emblem detection with the usage of deep getting-to-know methodologies. The motive of this mission is to decorate highway site visitors' control by imparting comprehensive insights into vehicle motion patterns. Employing cutting-edge convolutional neural networks which include YOLO(You Only Look Once), the gadget achieves precise and adaptable automobile detection acrossvarious environmental situations. In addition to accurate vehicle detection and counting, this mission uniquelyextends its competencies to perceive automobile kinds and brands. By leveraging the electricity of deep studying, the machine can distinguish between exceptional car categories or even understand unique brands, contributing to richer visitor insights. The real-time nature of the system guarantees timely records shipping for informed choice-making in visitor management and infrastructure planning. Extensive experimentation with real-international toll road video information validates the system's first-rate accuracy, processing velocity, and effectiveness as compared to traditional techniques. This mission represents a full-size development inhighway traffic control, offering a comprehensive, real-time, vision-primarily based answer that encompassesdetection, counting, and type of vehicle kinds and brands.

Keywords: Vehicle dataset, Image segmentation, Vehicle detection, Vehicle counting, Highway management

4. Industrial Training/Workshop done by Staff during May 2024: **NIL**
5. Industrial Visit/Field visit organized by department for student during May 2024: **NIL**
6. Training and Placement Cell during May 2024: **NIL**
7. Books Purchased in Central Library during May 2024: **NIL**
8. Forthcoming event in the month April and May 2024:- **NIL**
9. Achievements:

Prof. Rupali Bora delivered an expert talk on "Implementing Information Technology in the Pharmacy Domain" on the occasion of Innovation Day, held on May 11th, 2024, at K.K. Wagh Pharmacy.

HOD, IT