

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

1. Expert Lecture/Seminar/Courses Organized by Department during Dec. 2024: **NIL**  
Department of Information Technology had organized workshop on “**Warli Painting and Mandala Art**” for FY. (Div H & Q) on 6<sup>th</sup> December 2024. Workshop was conducted by Prof. Sankalp Bagul and Prof. Levant Gavande, MVP Samaj's Sharadchandraji Pawar College of Architecture.



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

**Title of Paper:** “Gerbera Flower Counting System using Images Captured by Drone”

**Name of Journal:** The Indian Journal of Technical Education

**Volume and Issue:** Volume 47, No 3, July-September 2024

**ISSN NO:** ISSN 0971-3034

**Names of Authors:** Prof. Rupali M. Bora, Mitali Bafna, Anjali Bhawari, Rujul Modi (BEIT)

**Abstract:** Traditional agriculture and floriculture practices have long relied on manual labor for task like estimating flower quantities, classification, etc. Manual estimation had several disadvantages like inaccuracy, time-consuming, labor-intensive and costly. As the demand for gerbera flowers continue to grow for various industries including ornamental, pharmaceutical and decorative-purpose, the need for accurate and efficient flower quantity estimation has become more pronounced. The primary objective of this project is to create an integrated system capable of capturing aerial images of flower farms using drone and processing these images using Machine Learning algorithms. This will leverage advanced technologies to address the challenges and limitations associated with manual counting of flowers. For this purpose, we will be using Drone Footage of Greenhouse-grown Gerbera Flowers as the input dataset. Then, it will be used to train and test the YOLO, an object detection algorithm and output will be displayed on an UI to the user. With the help of this automated system, the flowers will be counted systematically from the greenhouse environment.

**KEYWORDS :** Drone, Gerbera flowers, Greenhouse, Object detection, Roboflow, YOLO (You Only Look Once).

**Title of Paper:** “Enhancing Resilience in Edge IoT devices Against Adversarial Attacks”

**Volume and Issue:** This article has been accepted for publication in IEEE Consumer Electronics Magazine.

**ISSN NO:**

**DOI:** DOI 10.1109/MCE.2024.3522524

**Names of Authors:** Prof. Dr. Darshan Medhane

**Abstract**—With the rapid growth of consumer electronics devices, the traditional centralized cloud computing paradigm faces significant challenges, including high latency, limited capacity, and susceptibility to network failures. Fog computing, an edge-based computing paradigm, has emerged to address these issues by processing and computing IoT data at the device level rather than relying on the cloud. This paradigm shift presents an opportunity to embed artificial intelligence(AI) models directly into edge intelligence devices. However, deploying AI models at Edge IoT devices presents several challenges, such as adversarial attacks, due to the increased physical accessibility of IoT devices to attackers, especially it difficult to identify the specific types of threats that might be injected to the system. In this paper, we propose a framework for adversarial training to enhance the robustness of AI models against unknown adversarial attacks by employ SE-GAN, a self-attention conditional GAN-based model to generate adversarial samples and train the AI model using this adversarial dataset.

3. Papers Presented by Students during Dec. 2024: **NIL**

4. Industrial Training/Workshop done by Staff during Dec. 2024:

Prof. Shaikh Tahareem had participated in Faculty Development Program on **“Innovative Teaching Padagogy and Skills Component of NEP”** on 5<sup>th</sup> Dec. 2024 organized by K.V.N. Naik Institute Of Engineering Education & Research.

Prof. Dr. Preeti Bhamre successfully completed One Week Online Faculty Development Program on **“Generative AI and its Multidomain Use Cases”** Organized by Department of Information Technology, Vishwakarma Institute of Technology, Pune from 15<sup>th</sup> Dec. 2024 to 19<sup>th</sup> Dec. 2024.

Prof. Dr. Darshan Medhane successfully completed One Week Online Faculty Development Program on **“Generative AI and its Multidomain Use Cases”** Organized by Department of Information Technology, Vishwakarma Institute of Technology, Pune from 15<sup>th</sup> Dec. 2024 to 19<sup>th</sup> Dec. 2024.

Prof. Pagar Prajakta successfully completed One Week Online Faculty Development Program on **“Generative AI and its Multidomain Use Cases”** Organized by Department of Information Technology, Vishwakarma Institute of Technology, Pune from 15<sup>th</sup> Dec. 2024 to 19<sup>th</sup> Dec. 2024.

5. Industrial Visit/Field visit organized by department for student during Dec. 2024:

The Department of Information Technology organized an Industrial Visit to Teknocrat's Control Systems (I) Private Limited, Nashik, for FY (IT) students. On 30<sup>th</sup> December 2024, 57 students from H Division, accompanied by Prof. Parul Agrawal and Prof. Pagar Prajakta, participated in the visit. Similarly, on 31<sup>st</sup> December 2024, 60 students from Q Division, accompanied by Prof. Ashwini Suryawanshi and Prof. Shaikh Tahareem, visited the industry.



Industrial Visit at Teknocrat's Control Systems (I) Private Limited, Nashik

**6. Training and Placement Cell during Dec. 2024:**

<b>Sr. no</b>	<b>Name of Student</b>	<b>Name of Company</b>
<b>1</b>	Jayshree Pangavhane	NCDEX e Markets Ltd.
<b>2</b>	Akshay Khandare	Winjit, Nashik
<b>3</b>	Devansh Dubey	
<b>4</b>	Nishant Singh	
<b>5</b>	Pragati Jadhav	
<b>6</b>	Prasad Patil	
<b>7</b>	Shruti Shinde	
<b>8</b>	Yashashree Lidhure	

**7. Books Purchased in Central Library during Dec. 2024: NIL**

**8. Forthcoming event in the month Feb and March. 2025:- NIL**

**9. Achievements:**

**HOD, IT**