



# DADI INSTITUTE OF ENGINEERING & TECHNOLOGY (An Autonomous Institute)

Approved by A.I.C.T.E & Permanently affiliated to JNTU GV  
Accredited by NAAC with 'A' Grade and Inclusion u/s 2(f) & 12(B) of UGC Act  
An ISO 9001:2015, ISO 14001:2015 & ISO 45001:2018 Certified Institute.  
NH-16, Anakapalle - 531002, Visakhapatnam, A.P.  
Website: [www.diet.edu.in](http://www.diet.edu.in), 9963993229 E-mail: [principal@diet.edu.in](mailto:principal@diet.edu.in)

## A report on “Demo Day: Recent Innovations in Engineering”

The Department of Electrical and Electronics Engineering of Dadi Institute of Engineering & Technology- Autonomous in association with DIET ISTE Student Chapter and Institute Innovation Council (IIC) conducted the Demo Day: Recent Innovations in Engineering on 4<sup>th</sup> January 2024 at Control Systems Lab, 5<sup>th</sup> floor in the institute premises. Demo Day, a showcase of recent innovations in engineering, provided a platform for brilliant minds to unveil groundbreaking technologies and solutions. The event brought together engineers, innovators, and industry leaders, offering a glimpse into the future of technology. This report outlines some of the remarkable advancements presented during this captivating exhibition.

**DADI INSTITUTE OF ENGINEERING AND TECHNOLOGY**  
(AUTONOMOUS)  
(Approved by A.I.C.T.E., New Delhi & Permanently Affiliated to JNTU GV, Vizianagaram)  
NAAC 'A' ACCREDITED INSTITUTE and Inclusion of section 2(f) & 12 (B) of UGC Act

**Department of Electrical and Electronics Engineering**  
In association with  
**Institute Innovation Council (IIC)**  
and  
**Indian Society for Technical Education (ISTE)**  
ORGANIZING

**Demo Day: Recent Innovations in Engineering**

**On 04-01-2024**  
From 10 AM onwards

**Venue:** Control System Lab,  
5th Floor (DIET)

**Co-ordinators:**  
Dr. S. Ramana Kumar Joga, Asst. Prof.  
Mr. K. Vijay Kumar, Assoc. Prof.

**Dr. A.S.L.K.Gopalamma**  
HOD-EEE

**Dr. R. Vaikunta Rao**  
Principal, DIET

**Sri Dadi Ratnakar**  
Chairman, DIET

Poster of the Lecture Talk



# DADI INSTITUTE OF ENGINEERING & TECHNOLOGY (An Autonomous Institute)

Approved by A.I.C.T.E & Permanently affiliated to JNTU GV  
Accredited by NAAC with 'A' Grade and Inclusion u/s 2(f) & 12(B) of UGC Act  
An ISO 9001:2015, ISO 14001:2015 & ISO 45001:2018 Certified Institute.  
NH-16, Anakapalle - 531002, Visakhapatnam, A.P.

Website: [www.diet.edu.in](http://www.diet.edu.in), 9963993229 E-mail: [principal@diet.edu.in](mailto:principal@diet.edu.in)

The Demo Day started with an Inauguration event by Dr. R. Vaikunta Rao(Principal), Mr. K. Vijay Kumar, (DIET ISTE Convener), Dr. A.S.L.K. Gopalamma, (HOD-EEE) and other faculty members and students.



Dr. R. Vaikunta Rao (Principal) addressed the gathering along with ISTE Convener.

## **Visionary Innovation: Student Project Unveils Non-Arduino-Based Spectacles for the Visually Impaired**

In a remarkable demonstration of ingenuity and compassion, a group of students recently presented a groundbreaking project aimed at enhancing the lives of visually impaired individuals. The project focused on the development of spectacles specifically designed to assist the blind, without relying on Arduino or other electronic components. This report highlights the key features and implications of this innovative initiative. The primary goal of the project was to create a cost-effective and user-friendly solution to aid the visually impaired without the need for complex electronic components like Arduino. The students aimed to develop a practical and accessible tool that could improve the daily lives of those with visual impairments. Key Features:

### **Tactile Feedback System:**

The students implemented a tactile feedback system within the spectacles, utilizing mechanical components to provide users with haptic feedback. Through subtle vibrations and texture variations, wearers could receive

# DADI INSTITUTE OF ENGINEERING & TECHNOLOGY (An Autonomous Institute)



Approved by A.I.C.T.E & Permanently affiliated to JNTU GV  
Accredited by NAAC with 'A' Grade and Inclusion u/s 2(f) & 12(B) of UGC Act  
An ISO 9001:2015, ISO 14001:2015 & ISO 45001:2018 Certified Institute.  
NH-16, Anakapalle - 531002, Visakhapatnam, A.P.

Website: [www.diet.edu.in](http://www.diet.edu.in), 9963993229 E-mail: [principal@diet.edu.in](mailto:principal@diet.edu.in)

---

information about their surroundings without relying on electronic sensors.

## Environmental Sound Recognition:

The spectacles incorporated a sound recognition mechanism to identify and relay information about the user's environment. By focusing on natural sounds such as footsteps, traffic, and ambient noises, the spectacles enhanced spatial awareness and improved navigation for the visually impaired.

## Collaborative Design for Comfort:

The students prioritized user comfort in the design process, collaborating with visually impaired individuals to ensure the spectacles were lightweight, ergonomic, and easy to wear for extended periods. The design incorporated adjustable components to cater to diverse face shapes and sizes.

## Implications and Future Developments:

The non-Arduino-based spectacles demonstrated great potential for addressing the needs of the visually impaired community. The project's success highlighted the significance of inclusive design and collaboration with end-users to create solutions that truly meet their needs.

Future developments could explore additional features, such as voice-command functionalities, expanded Braille integration, and further improvements to the tactile feedback system. The project's scalability and affordability make it a promising candidate for widespread adoption and potential integration into existing assistive technology frameworks.



Smart Spectacles for Blind



# DADI INSTITUTE OF ENGINEERING & TECHNOLOGY (An Autonomous Institute)

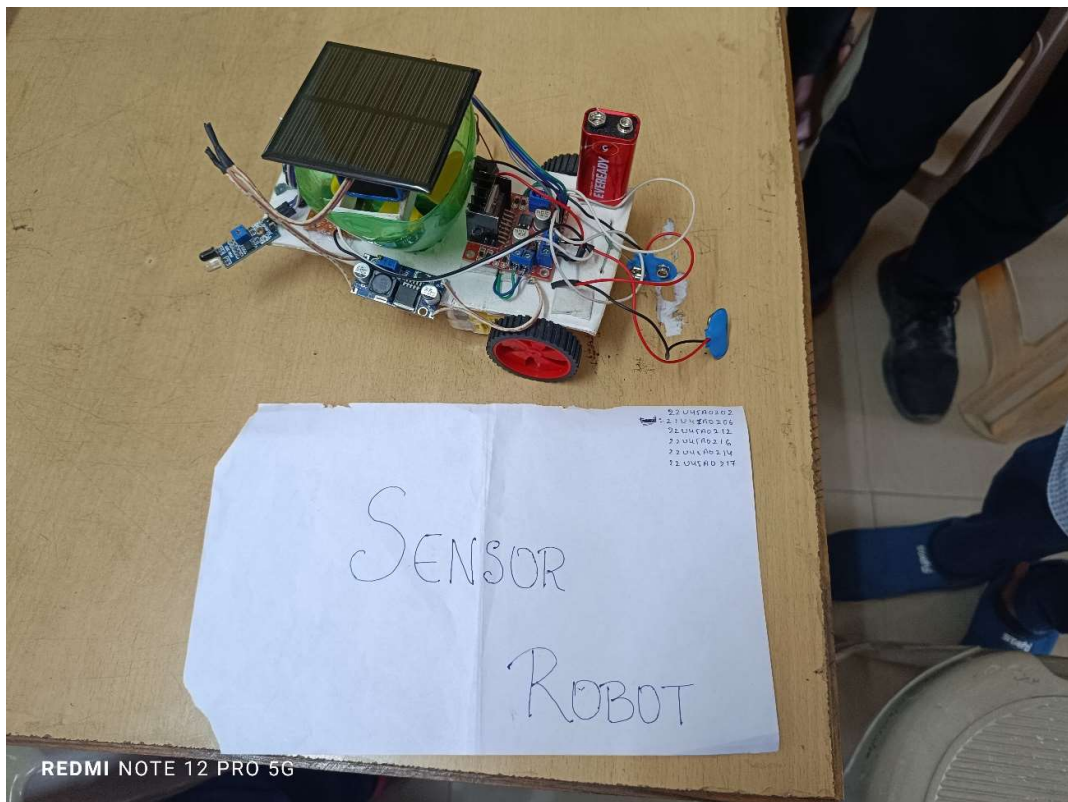


Approved by A.I.C.T.E & Permanently affiliated to JNTU GV  
Accredited by NAAC with 'A' Grade and Inclusion u/s 2(f) & 12(B) of UGC Act  
An ISO 9001:2015, ISO 14001:2015 & ISO 45001:2018 Certified Institute.  
NH-16, Anakapalle - 531002, Visakhapatnam, A.P.

Website: [www.diet.edu.in](http://www.diet.edu.in), 9963993229 E-mail: [principal@diet.edu.in](mailto:principal@diet.edu.in)

The other project that outlines few topics like are

1. **Autonomous Vehicles:** One of the standout innovations was the development of advanced autonomous vehicles. Engineers demonstrated sophisticated self-driving technology that showcased enhanced safety features, efficient navigation, and seamless integration with smart city infrastructures. These vehicles exhibited remarkable progress toward revolutionizing the future of transportation.
2. **Robotics and Automation:** Robotics took center stage with a myriad of applications, from industrial automation to assistive robotics for healthcare. Engineers presented robots with increased dexterity, adaptability, and intelligence, paving the way for more efficient and versatile automation across various sectors.
3. **Internet of Things (IoT) Integration:** The integration of IoT into various aspects of daily life and industry was a recurring theme. Engineers demonstrated how interconnected devices and systems could enhance efficiency, optimize resource utilization, and improve overall user experience. From smart homes to industrial IoT applications, the possibilities seemed limitless.



Sensor Robot

# DADI INSTITUTE OF ENGINEERING & TECHNOLOGY (An Autonomous Institute)



Approved by A.I.C.T.E & Permanently affiliated to JNTU GV  
Accredited by NAAC with 'A' Grade and Inclusion u/s 2(f) & 12(B) of UGC Act  
An ISO 9001:2015, ISO 14001:2015 & ISO 45001:2018 Certified Institute.  
NH-16, Anakapalle - 531002, Visakhapatnam, A.P.

Website: [www.diet.edu.in](http://www.diet.edu.in), 9963993229 E-mail: [principal@diet.edu.in](mailto:principal@diet.edu.in)



Smart Accident Indicator & Autonomous Robot



# DADI INSTITUTE OF ENGINEERING & TECHNOLOGY (An Autonomous Institute)

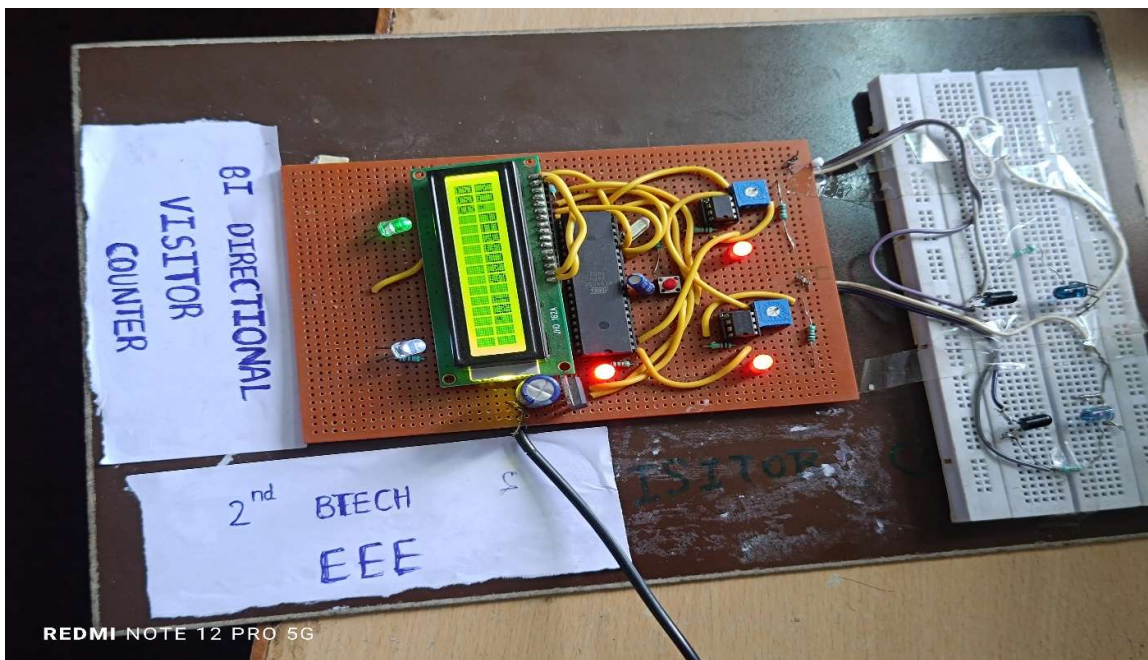


Approved by A.I.C.T.E & Permanently affiliated to JNTU GV  
Accredited by NAAC with 'A' Grade and Inclusion u/s 2(f) & 12(B) of UGC Act  
An ISO 9001:2015, ISO 14001:2015 & ISO 45001:2018 Certified Institute.  
NH-16, Anakapalle - 531002, Visakhapatnam, A.P.

Website: [www.diet.edu.in](http://www.diet.edu.in), 9963993229 E-mail: [principal@diet.edu.in](mailto:principal@diet.edu.in)



Students Project Demo on smart light monitoring system



Bi-Directional Visitor Counter

# DADI INSTITUTE OF ENGINEERING & TECHNOLOGY

(An Autonomous Institute)



Approved by A.I.C.T.E & Permanently affiliated to JNTU GV  
 Accredited by NAAC with 'A' Grade and Inclusion u/s 2(f) & 12(B) of UGC Act  
 An ISO 9001:2015, ISO 14001:2015 & ISO 45001:2018 Certified Institute.

NH-16, Anakapalle - 531002, Visakhapatnam, A.P.

Website: [www.diet.edu.in](http://www.diet.edu.in), 9963993229 E-mail: [principal@diet.edu.in](mailto:principal@diet.edu.in)

Attendance: (No. of Students: 50)

## DEPARTMENT OF EEE

PROGRAM: Demo Day: Recent Innovations in Engineering.

DATE: 4/09/21

S.No	Name of the Student	Title of the Project	Signature
1.	E Archana	BLIND PEOPLE SPECTS	E Archana
	B. SRAVANI	WITH SENSORS.	
	S. VISWAKANITH	Blind people Specks with Sensors.	S. Visuath
	K. SRINIVAS	Blind people Specks with Sensors.	K. Srinivas
	D. RAJ	Blind people Specks with Sensors.	K.
	V. DHANRAJ	Blind people Specks with Sensors.	
	K. SHARAN SAI	Blind people Specks with Sensors.	K. Sharan Sai
2.	B. Shrawani Kumari	IoT based light Control	B. Shrawani Kumari
	N. Girija	IoT based light Control	N. Girija
	M. Bhargavi	IoT based light Control	
	Y. Karthik	IoT based light Control	Y. Karthik
	P. Ganesh	IoT based light Control	P. Ganesh
	K. Sai Deepak	IoT based light Control	K. Sai Deepak
3.	D. Bhargav.	Smart prototype based Automatic vehicle Headlight switching & Eye Blink sensor	D. Bhargav.
	J. Sarathk.	Smart prototype based Automatic vehicle headlight	J. Sarathk.
	K. Sarajini	Smart prototype based Automatic vehicle Headlight switching & Eye Blink sensor	K. Sarajini
	S. Jagadeesh.	Smart prototype based Automatic vehicle	S. Jagadeesh.
	B. Chandu	Automatic vehicle & headlight swic	B. Chandu
	A. Karishma	Smart prototype based Automatic vehicle Eye blink sensor	A. Karishma



# DADI INSTITUTE OF ENGINEERING & TECHNOLOGY

(An Autonomous Institute)



Approved by A.I.C.T.E & Permanently affiliated to JNTU GV  
Accredited by NAAC with 'A' Grade and Inclusion u/s 2(f) & 12(B) of UGC Act  
An ISO 9001:2015, ISO 14001:2015 & ISO 45001:2018 Certified Institute.

NH-16, Anakapalle - 531002, Visakhapatnam, A.P.

Website: [www.diet.edu.in](http://www.diet.edu.in), 9963993229 E-mail: [principal@diet.edu.in](mailto:principal@diet.edu.in)

④	P. Yaswanth	Speech converter for dumb	12 Yashwanth
	K.V.K. Varanthachari	Speech Converter for dumb	K.V. Chaitra
	B. Dilesh Madhav		B.D. Madhav
	K. Bala	Speech Converter for dumb	K. Palle
	G. Mounika	Speech Converter for dumb	G. Mounika
	J. Vijay Kumar	Speech Converter for dumb	J. Vijay
⑤	G. Bhargav	BI - Directional visitor Counter	Bhargav
	D. Devi Sri Prasad	BI - Directional visitor Counter	<del>D. Devi Sri Prasad</del>
	P. Manoj	BI - Directional visitor Counter	<del>P. Manoj</del>
	R. Abhi Ram	BI Directional visitor Counter	<del>R. Abhi Ram</del>
	V. Karthik	BI Directional visitor Counter	V. Karthik
	P. Hema Latha	BI Directional visitor Counter	P. Hemalatha
6	B. Likhitha	Automatic light control Node <sup>IOT</sup> MCU	Likhitha
	B. Saivasanthi	Automatic light controller-IOT	Saivasanthi
	K. Akhila	Automatic light controller-IOT	K. Akhila
	N. Thansi	Automatic light controller IOT	N. Thansi
	V. Jaswanth	Automatic light controller-IOT	V. Jaswanth
	R. Samuel	Automatic light controller-IOT	R. Samuel
③	V. Pavani	Smart Energy Meter	V. Pavani
	A. Yashitha	Smart Energy Meter	<del>A. Yashitha</del>
	S. Jahnavi	Smart Energy Meter	S. Jahnavi
	A. Pushpa Raju	Smart Energy Meter	<del>A. Pushpa Raju</del>
	P. Jagannathan	Smart Energy meter	P. Jagannathan
	K. Bharath Sai	Smart Energy meter	K. Bharath Sai



# DADI INSTITUTE OF ENGINEERING & TECHNOLOGY

(An Autonomous Institute)



Approved by A.I.C.T.E & Permanently affiliated to JNTU GV  
Accredited by NAAC with 'A' Grade and Inclusion u/s 2(f) & 12(B) of UGC Act

An ISO 9001:2015, ISO 14001:2015 & ISO 45001:2018 Certified Institute.

NH-16, Anakapalle - 531002, Visakhapatnam, A.P.

Website: [www.diet.edu.in](http://www.diet.edu.in), 9963993229 E-mail: [principal@diet.edu.in](mailto:principal@diet.edu.in)

(8)	K. Prabhas Venkata Sai	Blind people Supporting System	K. Prabhas
	K. Surya Prakash Rao	Blind people Supporting System	K. Surya Prakash
	M. Shanmukh Naidu	Blind people supporting system	M. Shanmukh
	R. Dharmendra	Blind people supporting system	R. Dharmendra
	A. Kumanika Sushma	Blind people supporting system	A. Sushma
	M. Shyam Raju Reddy	Blind people supporting System	M. Shyam
	<del>B. Likitha</del>	<del>Automatic Light Controlling using IoT</del>	
	<del>B. Vasanthi</del>		
	B. Lakshmya	BLIND PEOPLE SPECS WITH SENSOR	B. Lakshmya
	D. Shweta	BLIND PEOPLE SPECS WITH SENSOR	D. Shweta

~~Coordinator~~  
Coordinator  
(N. SRK Joga)

Anegopalamma  
HoD, EEE  
Head of the Department  
Electrical & Electronics Engg.  
Dadi Institute of Engg. Tech.  
Anakapalle - 531 002

# DADI INSTITUTE OF ENGINEERING & TECHNOLOGY (An Autonomous Institute)



Approved by A.I.C.T.E & Permanently affiliated to JNTU GV  
Accredited by NAAC with 'A' Grade and Inclusion u/s 2(f) & 12(B) of UGC Act  
An ISO 9001:2015, ISO 14001:2015 & ISO 45001:2018 Certified Institute.  
NH-16, Anakapalle - 531002, Visakhapatnam, A.P.

Website: [www.diet.edu.in](http://www.diet.edu.in), 9963993229 E-mail: [principal@diet.edu.in](mailto:principal@diet.edu.in)

## Conclusion:

Demo Day served as a testament to the relentless pursuit of innovation within the engineering community. The showcased advancements not only reflected the current state of the industry but also hinted at the exciting possibilities that lie ahead. As these technologies continue to evolve, their impact on society, the environment, and the way we live and work is poised to be transformative. The event left attendees inspired and eager to witness the real-world implementation of these groundbreaking engineering innovations.

## Sample Certificates:



(Dr. S Ramana Kumar. Joga)  
Department R&D coordinator

Head of the Department  
Electrical & Electronics Engg.  
Dadi Institute of Engg. Techn.  
Anakapalle - 531 002