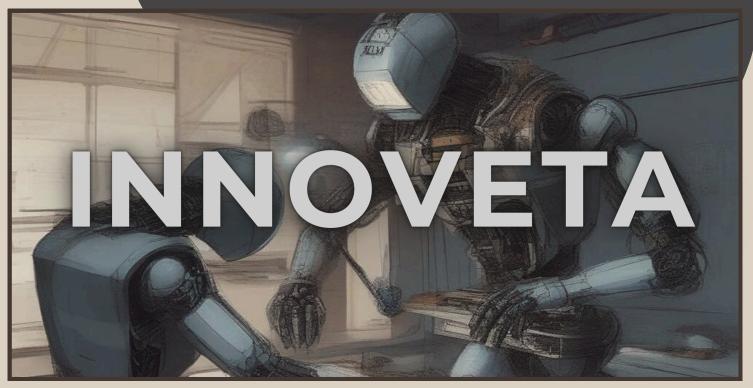


# VES Institute of Technology

Department of Automation & Robotics NINTH Edition



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The AUTOMATION AND ROBOTICS Department is dedicated to cultivating adept professionals capable of navigating the intricate landscape of Artificial General Intelligence (AGI) development.

**Robotics** and **AI** symbiotically advance, with robotics transcending into intricate manual processes such as metal grinding and deburring.

Anticipated job displacement concerns are mitigated through proactive measures encompassing comprehensive retraining and upskilling initiatives.

The department orchestrates workshops and garners insights from esteemed industry leaders, strategically bridging the chasm between academia and industry.

The ninth iteration of '**INNOVETA**' stands as a tangible testament to the department's unwavering commitment to fostering synergistic collaborations between the realms of research, industry and academia.

# VISION

To contribute at National as well as International level for excellence in technical education and research in the field of instrumentation and control by creating proactive, noble personalities and integrated individuals who will use the knowledge and be fully dedicated to the progress of society.

### MESSAGE FROM DEPARTMENT



Mr.Prasad Godse Assistant Professor & Placement Incharge (Auro Dept.)

सृजन हो नमस्कार 🙏

स्वयंचलन आणि यंत्र मानव अभियांत्रिकी विभागातर्फे प्रकाशित होत असलेल्या "**इंनोवेटा**" या मासिका साठी शुभेच्छा संदेश देताना मनापासून आनंद होत आहे. शिक्षण क्षेत्रात आपण सर्व कार्यरत आहात या योगदानाबद्दल आपले अभिनंदन ..

पण मला काय वाटतं सांगू....अभियांत्रिकीचे शिक्षण घेत असलेले बहुसंख्य तरुण विद्यार्थी केवळ तंत्र शिक्षण घेत आहेत.... पण प्रत्यक्ष जीवनात मात्र काहीसे निराश... हताश... संयम नसलेले आणि संभ्रमावस्थेत आहेत... त्यांची निर्णयक्षमता कमी होत चालली आहे...दुर्दैवाने हे कटू.. पण सत्य आहे.

अशावेळी स्वामी विवेकानंदांनी सांगितल्याप्रमाणे... माणूस निर्माण करणारे... चारित्र्य घडविणारे... आणि चांगले विचार आत्मसात करविणारे शिक्षण देणे हे आज आपल्या पुढील मोठे आव्हान आहे...या संभ्रमावस्थेतून बाहेर काढून त्यांच्या जीवनात चैतन्य निर्माण करण्याची मोठी जबाबदारी शिक्षक म्हणून आपल्याला पार पाडावी लागेल.....

विद्यार्थ्यांना योग्य दिशा दाखवून राष्ट्र भक्तीची ज्योत त्यांच्या मनात रुजवावी लागेल... अभियांत्रिकी

अभ्यासक्रमाबरोबर जीवन कौशल्ये विकसित करावी लागतील... आणि येणाऱ्या पुढील आव्हानांना यशस्वी पणे तोंड देण्यासाठी त्यांना तयार करावे लागेल...

मला खात्री आहे की आपण सर्व हे शिवधनुष्य पेलू शकतो... भारताचीया महारथा या.... सारे मिळूनी... ओढू या...

Dear All Greetings!

I am very glad to give Good wishes for Innoveta magzine of the Automation & Robotic engineering dept.

I take this opportunity to congratulate you all for your contribution in the field of education.

However I strongly feel that many young Engineering students are only learning & taking Technical education...

But in actual life, they are disappointed, desperate impatience, and under frustration. Day by day their decision making capacity is reducing.. Unfortunately its True.

At this scenario, As rightly said by Great Swami Vivekanand, we will have to impart an education which will create and develop good character, assimilate thoughts and Human being.

It will be responsibility on the shoulders of teachers to create consciousness, sow patriotism and develop lifeskills within young generation to make them ready to face various challenges in near future.

I am sure all of us can do this difficult task.

Prasad K. Godse Assistant Professor Mo: 09821317178

### India Automation Challenge 23

The India Automation Challenge 23 (IAC 23) initiative aims to inspire young minds, provide exposure to real-world automation challenges, and create a talent pool of practical solution-oriented professionals. Industrial Automation is published by Mumbai-based IED Communications Ltd, and the company is also organizer of the iconic Automation Expo series of annual exhibition and conference programme.

38 innovative projects out of 150 were shortlisted based on abstract across the India. Then 20 were shortlisted in technical presentation and then top 10 were selected as finalist based on proof of concept. The selected top 10 finalists got chance to showcase their project in India's Biggest and Southeast Asia's Biggest Exhibition for the Automation Industry – "Automation Expo 23, Goregaon, Mumbai.

The project team of Vinayak Rasal, Aman Rajbhar and Tanvi Desai, Final year Instrumentation Engineering won the first prize for the project "Greenhouse Automation using openPLC" mentored by **Dr.Nilima Warke, Associate Prof.**, **Automation and Robotics, V.E.S.I.T.** The winner team is felicitated with first prize trophy and a cash prize worth of Rs.20,000/- at the Automation Expo 23 and also VESIT received the Best college trophy.



### Project Description:

This project aims to develop a cost effective greenhouse automation for farmers and enabling them to use advance technologies for better yield. Here, openPLC is used to monitor and control critical environmental parameters such as temperature, humidity, light levels, and irrigation.

The system incorporates features like automatic climate control, remote monitoring, and data analysis to ensure optimal plant growth conditions. Inconsistent monitoring and control of such environmental parameters can lead to suboptimal growing conditions, resulting in reduced crop yield and quality.

### Major Funding-C2S (Chips to Startup)

V.E.S Institute of Technology, Chembur has received Grant-in-Aid of Rs 82.59 Lakhs from Ministry of Electronics and information Technology (MeitY), Govt. of India for the Academia-Industry Collaborative project "Development of ASICs or SoCs for programmable gain amplifier and reconfigurable ADCs for wide range of applications" under "Chips to Startup (C2S)" category-I for three years. VESIT is the only one private educational institute from Maharashtra which has been selected under category-I. It is for the first time the institute is receiving a research grant for VLSI chip design. The project proposal stood out among numerous submissions due to its innovative nature and potential for significant contributions to the field of electronics.

The aim of the C2S program is to build a vibrant semiconductor design and innovation ecosystem aimed at developing Specialized Manpower in VLSI/Embedded System Design. Along with this grant money, VESIT has been granted remote access to development tools worth more than Rs.1crore, providing the necessary resources to facilitate the project's successful implementation and this will enable VESIT to continue its mission of fostering research and innovation within its academic community.

The project is an extension of the PhD work undertaken by Dr. Nilima Warke, Associate Professor, Automation & Robotics Department and Dr. Jayamala Adsul, Assistant Professor, Electronics and Science Dept., VESIT under the mentorship of Dr. P. P. Vaidya, Emeritus Prof. and Hon. Dean R&D which will be implemented in collaboration with Shri. Amit Rambhia, Chairman and Managing Director of Panache Digilife Ltd, an esteemed graduate of VESIT.





#### Ministry of Electronics & Information Technology (MeitY) Chips to Startup (C2S)

**C2S Programme** 

- In line with the objective and vision of NPE-2019, an umbrella programme "Chips to Startup(C2S)" has been started.
- Under C2S programme, so far, 60 Projects from 103 Organizations across the country (including 90 Academia/ R&D
- Organizations and 13 Startup/ MSMEs) have been selected for financial support. EDA tool and Fabrication support.

Under Industry-Academia Collaborative Projects V.E.S. Institute of Technology, Mumbai and M/s Panache Digilife Limited, Thane's research project entitled "DEVELOPMENT OF ASICS OR SOCS FOR PROGRAMMABLE GAIN AMPLIFIER AND RECONFIGURABLE ADC FOR WIDE RANGE OF APPLICATIONS," received administrative approval.



- It has been approved at a total estimated cost of Rs. 82.59 Lakh, Rs.74.32 Lakh from the Ministry of Electronics and Information Technology as Grant-in-Aid, and Rs.8.27 Lakh from M/s Panache Digilife Limited, Thane. The duration of the Project is 3 years. The EDA Tools (Remote Access of Licences - Mentor, Cadence, Synopsys, Xilinx Vivado) will be issued for the purpose of undergraduate and postgraduate students' projects.
- The project, an extension of the PhD work undertaken by Dr. Nilima Warke, Associate Professor, Automation & Robotics Department and Dr. Jayamala Adsul, Assistant Professor, Electronics dept, VESIT under the mentorship of Dr. P. P. Vaidya, Hon. Dean R&D, will be implemented in collaboration with Shri. Amit Rambhia, Chairman and Managing Director of Panache Digilife Ltd, an esteemed graduate of VESIT.



## Workshops Conducted By Faculty

### Finishing school Training (Pre Placement Activity)

- Finishing school was conducted for students moving from third year to final year during summer 10th July- 14th July 2023, for 05 Days by faculty of the department & by other Experts. The schedule of the session is given below.
- Students were briefed about all the important topics they have covered till their third year which are essential for facing interviews and placements.
- They were also given an extensive hands-on session to prepare themselves for job opportunities.





# Workshop attended by Faculty

### Dr.Sangeetha P.Ram

• VLSI for Beginners (5 Days)

Mrs. Kanchan Chavan

• VLSI to System Design: Silicon to End Application Approach (5 days)

Dr. Nilima Warke

- Social Media Analytics
- The Recent Trends in VLSI Design & Its Research Issues in Industry Compliance
- VLSI for Beginners (5 Days)

### Research Forum Activities & Expert Talk

Topic: Career opportunities in Automation & Robotics (Date: 22/02/2023)

Mr. Shankar Mohan CEO, BIOPHARMAX, INDIA, PVT. LTD.





Topic: Demonstration on Nondestructive Testing Equipments (Date:-28/03/2023)

Mr.V.M.Joshi, Dr.Vivek Panvelkar, Mr.Pratik Chinchmalatpute, Mr.Shri Krishna Bhuta NDTS India Pvt.Ltd

Topic: Motivational Speech on Career Opportunities in different fields like Automation, R & D, Technical sales (Date:01/03/2023)

Mr.Anil Bhatia Vice President and Managing Director of Emerson Automation Solution—India





Topic: An Overview & Application of Wireless Sensor Networks (Date: 12/04/2023)

HOD, Department of Computer Engineering Shivajirao S.Jondhale College of Engineering, Dombivli (East)

Topic: Functional Safety:-Overview of Risk Assessment (Date:05/04/2023)

Dr.Nilima Warke Associate Professor VESIT





Topic: An expert talk was conducted under the guidance of VESIT-IQAC and VESIT-IIC by the Automation and Robotics department, on "Intellectual Property Rights (IPRs) and IP Management Start up" by(Date:20/07/23)

Dr.Rahul Kapoor Founder & Director Turnip Innovation

### **ISA-VESIT**

**ISA-VESIT** is the official student section of the **International Society of Automation (ISA)** at VESIT. It provides a plethora of facilities that give exposure to all the various domains which in turn benefit the students of VESIT through its various project-oriented workshops, technical events, initiatives, international conferences, and lots more.

### **TECHNICAL WORKSHOPS**

#### PCB DESIGNING WORKSHOP:

**On August 19, 2023, ISA-VESIT** hosted a compelling workshop on "PCB Designing," featuring esteemed speakers Mr. Atishkar Singh, Mr. Shobhit Rajguru, and Mr. Rashid Sarang. The workshop aimed to equip participants with fundamental knowledge in electronics, with a specific focus on the IC555 and IC4017 integrated circuits. Structured into two engaging sessions, the workshop commenced with a comprehensive overview of IC basics, followed by a hands-on session allowing participants to design and work on authentic PCBs. It provided a dynamic platform for practical learning and skill enhancement in electronic design.





**ISAxVESLit : Ctrl-Alt-Debate (Debate Competition):** On September 14, 2023, **ISA-VESIT** and VESLit Circle hosted a riveting debate competition on 'Technology', following the esteemed Oxford style format. With 23 teams and 46 participants, the event emphasized creativity, relevance, and overall impact in arguments. It served as a dynamic platform for exploring contemporary technological issues through spirited discourse.

### ChatGPT CLONE USING DJANGO:

On September 17th distinguished speakers Mr. Om Shetye, Miss. Sania Khan, and Miss. Anushka Shirode led a captivating workshop. Divided into two parts, attendees delved into the Django framework's fundamentals, including its structural elements and organizational architecture. The session elucidated the MVC (Model-View-Controller) framework and emphasized the pivotal role of APIs (Application Programming Interfaces) in facilitating software component interactions. This workshop served as an invaluable opportunity for participants to deepen their understanding and practical application of Django development concepts.



### Database Connectivity in Web Development:

Speaker: Miss. Aastha Jajoo, Mr. Om Shetye, Miss. Tanvi Saraf , Miss. Vishakha Singh, Miss. Anushka Shirode (12-13th December)

**ISA-VESIT** organized an insightful workshop on the intricacies of database connectivity in web development in online mode via Google Meet. The workshop unfolded a comprehensive understanding of Database Management System (DBMS) and the practical aspects of connecting a website to a database.

The workshop successfully bridged the gap between theoretical knowledge and practical application in the realm of database connectivity.

#### TECH TALK 2.0:

Speakers: Ms. Archita Malgaonkar, (21st December 2023 from 3 Pm to 5 Pm) The Tech Talk commenced with Archita delving into her academic journey, tracing her evolution from a student at VESIT to her current pursuit of advanced studies at IIT Hyderabad. She shared insights into her decision to specialize in electronics over information technology during her undergraduate years, having successfully completed her Bachelor's degree at VESIT in 2022. She adeptly discussed both the advantages and

disadvantages she encountered during this period, showcasing her resilience and adaptability.

### LINUX LEAP:

Speakers: Ms. Attreyee Mukherjee (January 5th, 2024 from 11:00-1:00 Pm) Attreyee initiated the session by introducing herself and delving into the discussion about various operating systems, particularly focusing on Linux. She shared her journey, highlighting her early engagement in hackathons and how this experience led her to develop a keen interest in the Linux Kernel domain. Attreyee further expounded on her involvement in the SHAKTI processor project during her internship at IITM.

### 3D Printing workshop:

Speakers: Miss .Hritika Mulay, Mr. Gaurav Singh (23rd and 24th of January 2024)

This workshop was aimed to help participants get exposure to various 3D printing and modelling softwares, broadening their skills and familiarity with the tools commonly used in the field. The first day commenced with a comprehensive overview of 3D printing basics, including additive and subtractive manufacturing. The second day of the ISA-VESIT 3D printing workshop, beginning with a theoretical introduction to 'FreeCad'software. The practical session focused on creating a Raspberry Pi case model using Partdesign and sketching techniques.



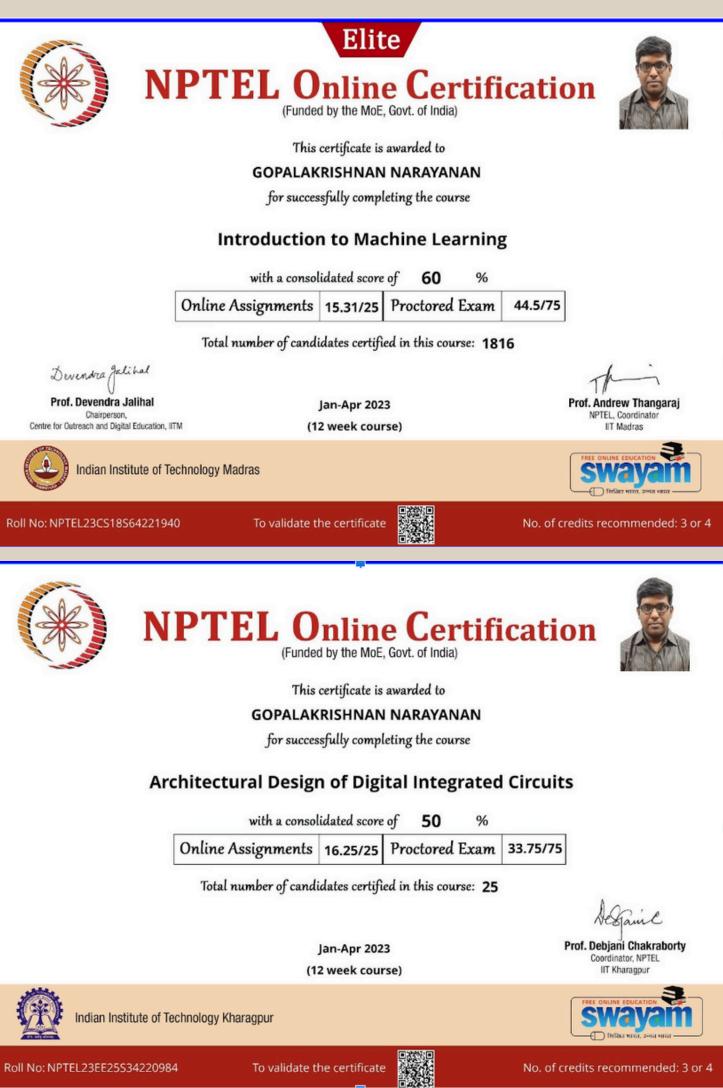






# Faculty Certification







Automation & Robotics Department

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### Alumni Speaks

I have Experience in the field of detailed engineering with International EPCs, Field Instrumentation and Control System Design

It's been great to be part of VESIT, All the professors and supporting staff are technically well acquainted and ready to extend their arms to help us.

Technical Labs are well equipped and design in such a manner to help Swapnil S. PATIL Passout batch : 2017 Passout batch : 2017

Curriculum and extra curriculum activities help us to enhance our leadership qualities.

Campus recruitment is one of the important events well managed by the training and placement committee to get maximum benefit to students.

When I first entered VESIT, I was litle anxious about my future. Over the four years, so many doors were opened for our personal and academic development that I became confident. The college aims at enhancing our knowledge, skills and abilities. It, in fact, didn't leave the attitude part behind as well. These years at VESIT were the best years concerning learning, experience and gaining exposure to fields relevant to my discipline, all due to my faculty members. In fact, we have our own I&C process lab where we could practically observe the concepts we learn. Other than academics our college has excellent councils for sports and cultural activities which helps in overall development of a student. We were the first batch that passed out in the times of covid. But even during that tough situation we received the support we wished for from our great teachers. At last, thanks to the college and Training & Placement Department for their efforts in getting me placed in core I&C company that I dreamed for. This endeavor will lead our college to incredible heights.

I'm grateful for all the opportunities I had in VESIT and want to thank all the supportive teaching staff. Thank you!





Mansi Kirankumar Adamanke Passout Batch 2016-2020 VESIT Labs have the best real industry like experience you can work on. The Instrumentation lab in the college provided us experience similar to the fields in a small compact form. The entire instrumentation faculties took extra efforts for students to get the hands on experience and knowledge to the students. I will be always thankful to them. My personal experience of working in lab is phenomenal. Got to learn a lot from the lab 101 &102. I got the opportunity to present my Final year project and represent VESIT Instrumentation department at CIIA exhibition. The placement cell took phenomenal efforts for the placement of each and every final year student. We had companies coming for placement drive for the entire year. All the credit goes to the placement cell who were bringing various companies to the campus.



Rahul Sanjay Patil ExxonMobil, Bengaluru.

### Editorial Team

