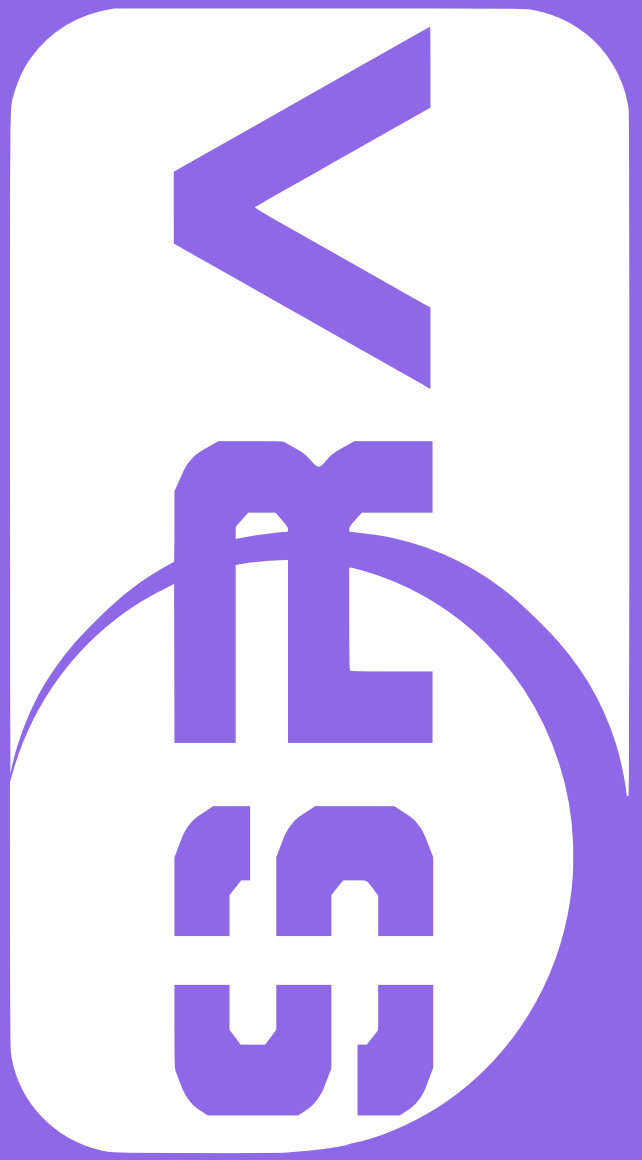
SOCIETY OF ROBOTICS AND AUTOMATION VJTI

IDEATE. INNOVATE. INSPIRE



ABOUT VJTI

VJTI Mumbai (estd. in 1887 as Victoria Jubilee Technical Institute) has pioneered India's Engineering education, research and training ecosystem. VJTI has been instrumental in driving industrial growth throughout India, it has played a pivotal role in setting up IITs and RECs of India and strengthened the technology excellence of the country.

It is the premier institute of Maharashtra and one of the best college in Mumbai.

VJTI is known for its high quality teaching, collaborative research, industry connect and strong alumni network.

VISION

- To establish global leadership in the field of Technology and develop competent human resources for providing service to society

MISSION

- To create an intellectually stimulating environment for research, scholarship, creativity, innovation and professional activity.

ABOUT SRA VJTI

IDEATE
INNOVATE
INSPIRE.

WHAT DO WE DO?

- Research ideas and create sustainable solutions in the field of Robotics, Embedded Systems, Computer Vision, ML, etc.
- Mentor students throughout their engineering to be a part of our society so that we can cultivate a strong community which contributes to the technological advances in the field of robotics and computing.
- Conduct workshops, seminars, technical talks, domain sessions and competitions that help students get familiar with essential concepts in their domain of Interest. We also conduct mentorship programs that facilitates knowledge transfer among the members of our community.

A LITTLE BIT ABOUT OUR INSANELY DETERMINED STUDENT COMMUNITY

Started in September 2008, Society of Robotics And Automation, (better known as SRA) is VJTI's prominent student body that deals with Robotics, Machine Vision, Automation and allied fields. SRA aims to create awareness and promote Robotics among students at VJTI and other leading colleges in Mumbai.

NATIONAL ACHIEVEMENTS

SECURED **TOP 10 RANK IN NATIONAL ROBOTICS COMPETITION** 2023

3RD IN **EYANTRA** SELF-BALANCING BIKE THEME 2022

1ST IN **VISION BEYOND LIMITS IIT BOMBAY,** TECHFEST 2021

1ST POSITION **ML TRACK OF DATATHON** BY KJSCE 2021

1ST IN THE 72 HR **AI HACKATHON BY SITP** 2019

1ST POSITION **SMART INDIA HACKATHON** 2019

1ST POSITION **TATA MOTORS AI HACKATHON** 2019

3RD RUNNER-UP **ABU ROBOCON** 2018

1ST POSITION **NVIDIA JETSON DEVELOPER CHALLENGE** 2018

1ST POSITION **ERNEST YOUNG BLOCKCHAIN HACKATHON** 2017

1ST RUNNER-UP **ABU ROBOCON** 2014

INTERNATIONAL ACHIEVEMENTS

SECURED **2ND AND 3RD** RANK IN SPATIAL AI COMPETITION 2023

20 SELECTIONS IN **GOOGLE SUMMER OF CODE** 2022

3RD IN **AMD XILINX** ADAPTIVE COMPUTING CHALLENGE 2022

2ND IN **DELTA INTERNATIONAL MANUFACTURING CONTEST** 2021

4 SELECTIONS IN **MITACS GLOBALINK** CANADA

3 SELECTIONS FOR **SUMMER@EPFL** SWITZERLAND

1ST POSITION **GLOBAL CYBER CHALLENGE** 2017

A team from SRA won the Darkathon competition and were felicitated by **Shri Amit Shah**.

SRA Members felicitated by **Shri Narendra Modi** for winning the Global Cyber Challenge Peace-a-thon


City college team qualifies for Asia-Pacific robotics event

TWO TEAMS FROM THE COUNTRY

SRA wins Most Economical Robot at ABU Robocon

Members of Team DNS felicitated by **Shri Uday Samant** for winning Second prize in Delta International Manufacturing Contest


Clash of the Robots

The national round of International Robocon 2014 saw the best of engineering minds controlling their creations to complete tasks themed on 'parent and child in a park'

SRA Members present the Humminger at DRDO. It came within the Top 10 at DRDO's Golden Jubilee Competition


मुंबई लाइव्स

उडत्या रोबोने केली कमाल

SRA is featured in the newspaper for 2nd prize at Robocon. SRA has also represented India previously in the International Robocon

SRA Members win the Hardware edition of the Smart India Hackathon for designing the VENOM Quadruped


मुंबई वृत्तान्त

आयआयटी मुंबईत व्हीजेटीआयच

Achievements of SRA Members in IIT-Bombay's Techfest are featured in the newspaper

OUR SOCIAL IMPACT

SKILL DEVELOPMENT

The objective of SRA's mentorship program is to develop the abilities necessary to accomplish the Government's "Make in India" objective. Students' skills are honed through practical experience in real-world projects. Students are also encouraged to take on challenging projects in various domains in order to gain holistic set of skills.

RESEARCH & DEVELOPMENT

To raise awareness about active research topics, we host a variety of technical sessions and guest lectures.

We endeavour to raise the bar for research at VJTI and other engineering programmes at Mumbai University.

We aspire to share our experience gained from research internships in IITs, IISc, IISER, EPFL, CMU, TU Delft, and various Canadian Universities in order to promote the growth of a culture of research in VJTI.

COMMUNITY DEVELOPMENT

Assist Mumbai University in its mission by serving as a leading voice in robotics and related disciplines.

Conduct workshops in Robotics, Image Processing, Embedded Systems, Machine Learning, Robot Design, etc in order to grow the community of passionate engineers at VJTI. Conduct student competitions to promote healthy learning.

WHY SPONSOR US

"By associating your brand with VJTI's most popular and technically proficient club, your brand's presence is enhanced. Students at VJTI are significantly more likely to recognise you and choose you as their first-choice vendor because you've held a relationship with them since they were in university. "

"The mind is not a vessel to be filled but a fire to be ignited" - Plutarch

SRA is a community where peer-to-peer knowledge transfer is pervasive as a result of our passion for growth and learning together. Meaning that we have a robust alumni network that can market your products and services both nationally and internationally.

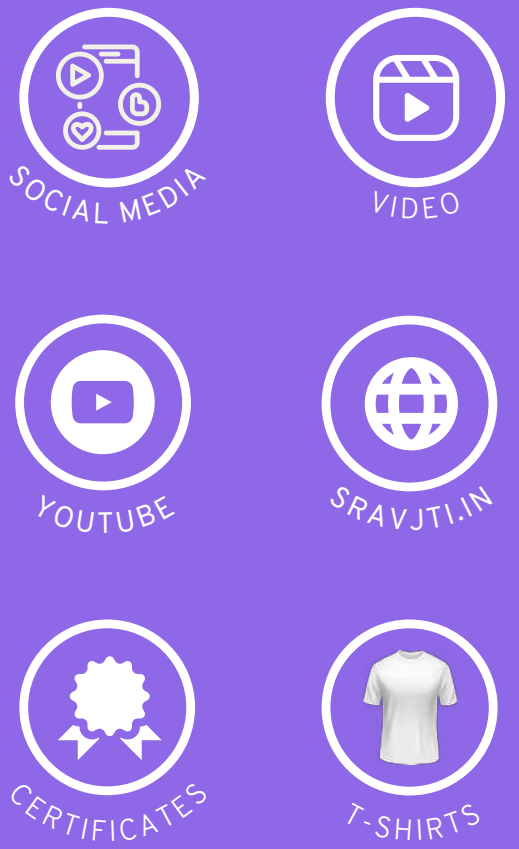
By associating your brand with our events, you make an impression on every student who participates. By sponsoring our events, you can simultaneously learn about customers, promote your products, and cultivate relationships with future leaders.

You also help a group of passionate learners grow in their respective fields

Support Us

BENEFITS OF SPONSORING

- PROMOTIONAL POSTS ON ALL SOCIAL MEDIA
- UNBOXING AND VIDEO REVIEW ON PROVIDED HARDWARE
- IN-DEPTH PROJECT REVIEW ON YOUTUBE
- HAVE YOUR LOGOS AND SOCIALS FEATURED ON OUR WEBSITE
- ADD YOUR LOGO TO OUR T-SHIRT!
- COLLABORATE FOR WORKSHOPS/SEMINARS IN VJTI
- PROMOTION OF YOUR COMPANY ACROSS OUR ALUMNI NETWORK



SPONSORSHIP TIERS

SILVER

UPTO INR 10K

- ✓ Social media marketing
- ✓ Get your logos and socials featured on our website
- × Unboxing and review videos on provided hardware
- × In-Depth Project review on youtube

Ideate

Most Popular ✨

DIAMOND

ABOVE INR 20K

- ✓ All Gold Tier benefits +
- ✓ Exclusive logo on workshop kits
- ✓ Also on projects, merch, competitions, and our certificates
- ✓ Promotion of your company across our alumni network
- ✓ Collaborate to organize workshops/seminars in VJTI

Inspire

GOLD

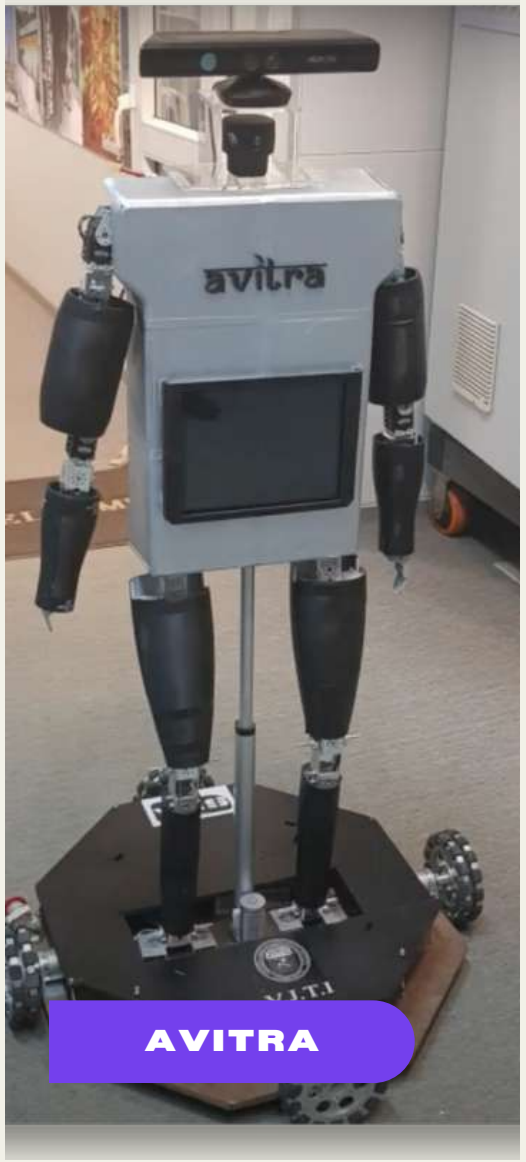
INR 10K - 20K

- ✓ Social media marketing
- ✓ Get your logos and socials featured on our website
- ✓ Unboxing and review videos on provided hardware
- ✓ In-Depth Project review on youtube

Innovate

* Any other deliverables are flexibly subjected to discussion

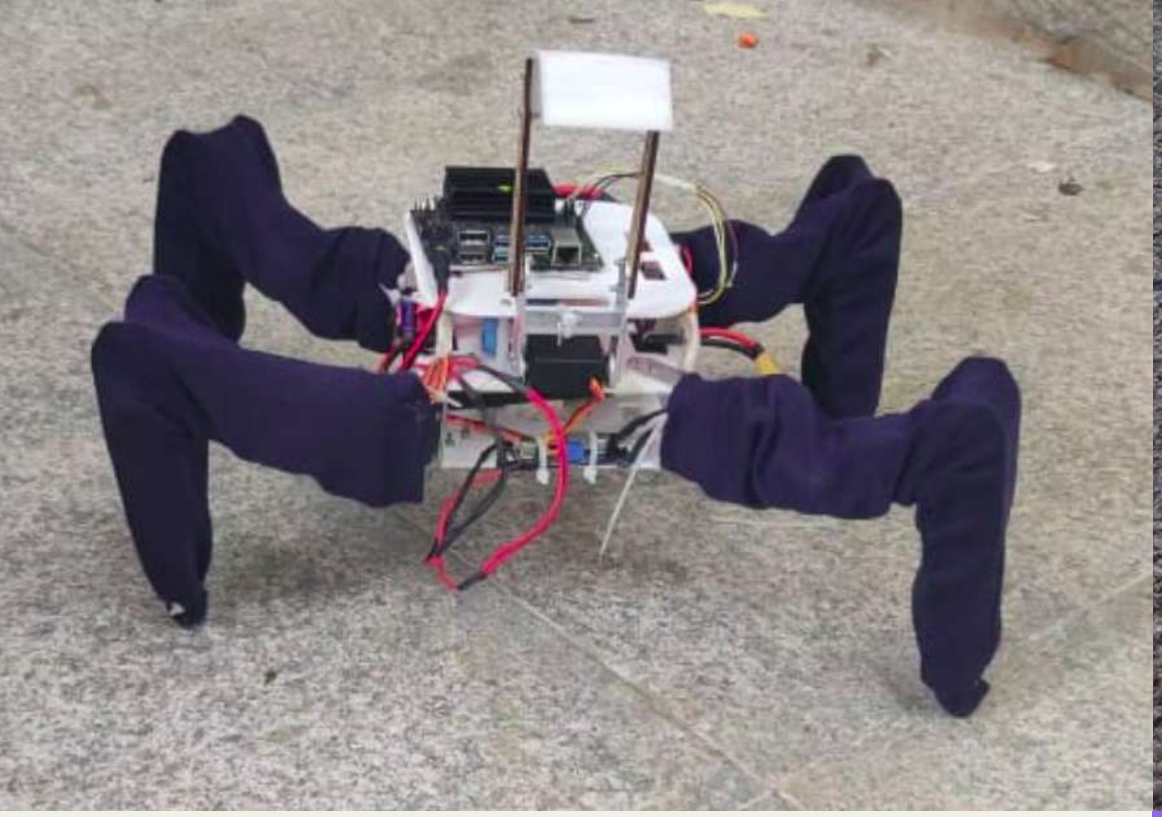
FLAGSHIP PROJECTS



AVITRA

VENOM

PUSHPAC



Four Legged Quadruped (VENOM)

Venom is an unmanned four legged robot equipped with RGB-Depth Camera and an ARM Processor for onboard computation. A legged vehicle like Venom, gives multiple-terrain mobility, superior to existing wheeled and tracked vehicles. It can also negotiate terrain with minimum of human guidance and intervention.

Hybrid Unmanned Aerial Vehicle (PUSHPAC)

Pushpac is a hybrid unmanned vehicle developed for functioning both in air and underwater. Pushpac is capable of extracting data regarding the bed profile of a water body up to a depth of 10 metres, and also performing surveillance and localisation using its vision capabilities, underwater as well as in flight.

....AND MANY MORE TO COME

5-DOF Serial Manipulator AVITRA

AVITRA is a 5-DOF Serial Manipulator retro-fitted on a holonomic drive platform capable of mapping unknown environments, autonomously navigating known environments and manipulating small objects of various shapes. It's driven by an Intel NUC as its main controller. It uses open-source software like ROS to make develpoment of applications using it easy

Here's the glimpse of KiKi challenge performed by none other than Avitra!

ACTIVITIES AND WORSHOPS

- TEACHING FRESHMAN STUDENTS TO BUILD A SELF-BALANCING AND LINE FOLLOWING ROBOT FROM SCRATCH.
- INTRODUCING STUDENTS TO THE FOUNDATIONS OF COMPUTER VISION AND IMAGE PROCESSING.
- TEACHING STUDENTS ALL THE CONCEPTS THAT ARE REQUIRED TO BUILD A ROBOTIC MANIPULATOR ARM IN SIMULATION AND HARDWARE.
- TEACHING STUDENTS CONCEPTS OF DESIGNING AND CAD MODELLING ALONG WITH HANDS-ON EXERCISES

SRA PRESENTS

PIXELS

Wall-E

SRA'S FLAGSHIP WORKSHOP

MARIO

Self Balancing and Line following Workshop (Wall-E)

The Wall-E robot is an autonomous self-balancing and line-following robot that operates on a custom-designed SRA PCB Board.

The fundamentals of embedded systems, electronics power systems, and robotics are taught to participating students.

The concepts are taught from the ground up over the course of 3 days.

Technologies Involved

- FreeRTOS
- ESP-IDF v4.4
- CMake

- 200+ Students

Computer Vision and Image Processing Seminar (Pixels)

PIXELS introduces students to the world of OpenCV and image processing. It serves as the basis for future forays into fundamental domains.

Concepts like Convolution, Filtering, Masking and Blob Detection are taught via interactive examples and live demonstrations.

Technologies Involved

- OpenCV
- C++
- GNU Make

- 150+ Students

Mechanical Designing Seminar (Dimensions)

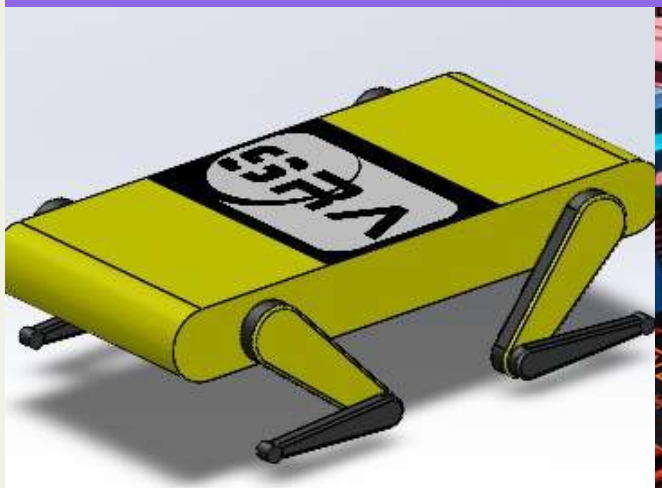
Dimensions is the seminar in which students are introduced to machine design, CAD modelling, and fundamentals of design thinking.

Important Skills like machine drawing, problem based designing, and 3D printing are taught.

Technologies Involved

- SolidWorks
- Fusion360
- Cura 3D-printing
- Visualization software (RVIZ)

- 150+ Students



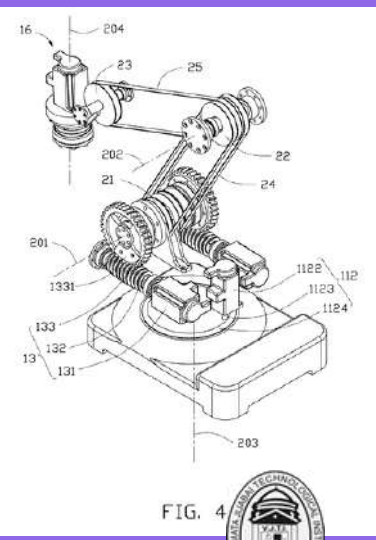


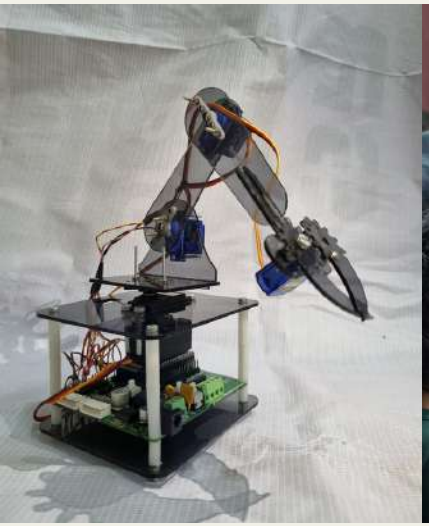
FIG. 4

Manipulator with 3 D.O.F Workshop MARIO

MARIO is a 3-DOF robotic arm that aims to emulate the human arm by modelling its joints intelligently.

Robot Operating Systems(ROS), Solidworks, and Embedded Systems concepts are taught in level of detail.

The fundamentals of kinematics in the context of modern technology are also covered.

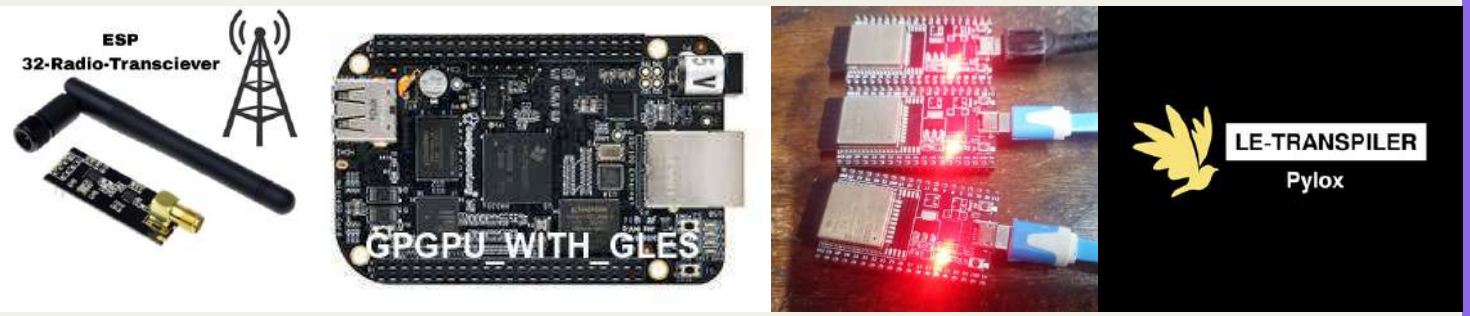


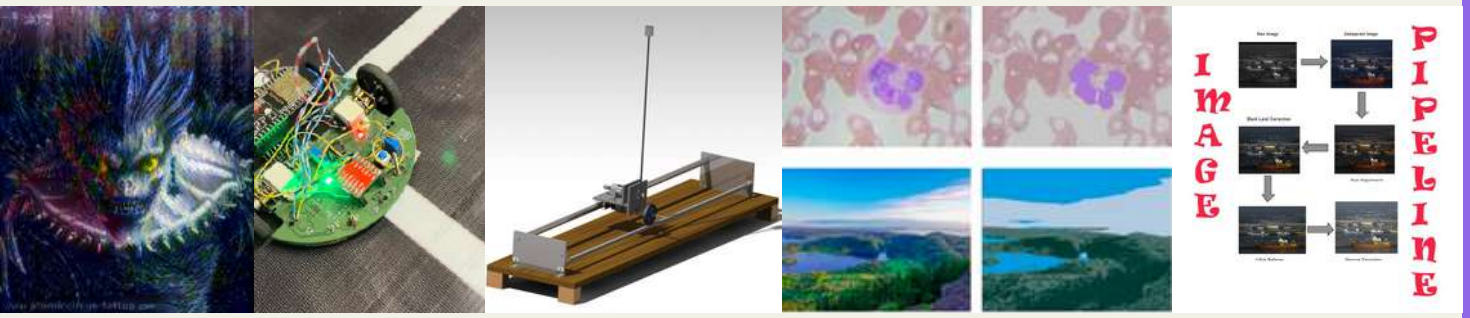
Tech Taught

- ROS (Robot Operating System)
- Gazebo
- Python

- 200+ Students

Summer mentorship Programme (Eklavya)





Domains

- Robotics
- Control Systems
- Computer Vision
- Embedded Systems
- FPGA (Field Programmable Gate Arrays)
- Image Processing
- Machine Learning
- Reinforcement Learning

40+ Students
20+ Teams
20+ Mentors

Our Partners

We would like to thank our partners for supporting us through the journey of learning and growing, their contribution is immensely valued for us

Our Reach


Microsoft
Texas Instruments
AMD
Qualcomm
WELLS FARGO
ESPRESSIF
AIRPIX
LANDING AI
PRINCETON UNIVERSITY
UNIVERSITY OF MICHIGAN
TU Delft
NANYANG TECHNOLOGICAL UNIVERSITY SINGAPORE
EPFL
Carnegie Mellon University
INDIAN INSTITUTE OF TECHNOLOGY BOMBAY
INDIAN INSTITUTE OF SCIENCE
भारतीय विज्ञान संस्थान
UNIVERSITY OF CALIFORNIA SAN DIEGO
GT
NYU
KTH VETENSKAP OCH KONST
USC University of Southern California
BONN
NORTHEASTERN UNIVERSITY
THE UNIVERSITY OF CALIFORNIA 1868

Contact Us

+91 76203 54429 - Mahesh Tupe
+91 84215 11890 - Alqama Shaikh

sra@vjti.ac.in

www.sravjti.in

Veermata Jijabai Technological Institute, H.R. Mahajani Marg
Mumbai - 400019

Our Team

Mahesh Tupe - General Secratary
Alqama Shaikh - Jt. Gen. Secratary

The best way to talk to us is through our email, we'll get back to you asap!

SRA
VJTI