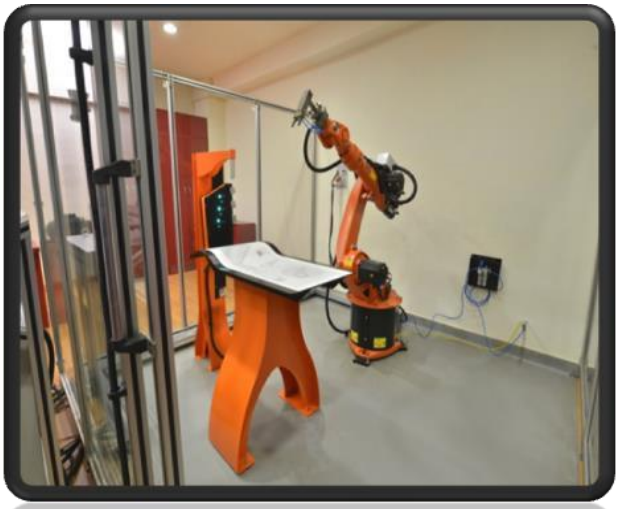


# ATHARVA ROBOTICS CENTER

## A REPORT

- DR. BHAVIN SHAH

ROBOTICS CENTER

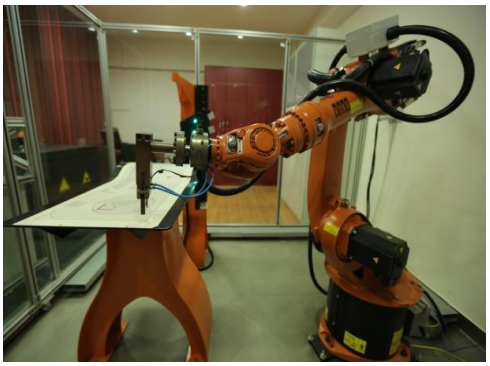
# VISION

To develop highly skilled engineers having practical knowledge on recent trends in Robotics & Automation by promoting Research, Technology & Innovation activities & enhancing the employment opportunities for the students

# MISSION

To provide top notch training programs in line with the industry needs along with Hands on Practical Sessions & upgrading with the recent trends in innovation & technology

# ABOUT ATHARVA ROBOTICS CENTER



Atharva College of Engineering has set up **Industrial Robotics Training Center** for Educational Institutions at ACE, Malad (West), Mumbai. The first batch of Industrial Robotics Training Program was opened to students of ACE on 04/08/2014. ACE's Robotics Training Center is **India's Second & Maharashtra's First Industrial Training Center** amongst Private Engineering Colleges in India, **implemented with "KUKA KR 16-2 C4 INDUSTRIAL ROBOT"** & can perform multitude of operations. Simulation Lab is also being established with latest industrial robotics simulation software's like Simpro & Officelite used to design, develop & simulate robotics operation for different manufacturing establishments. This highly equipped Industrial training cell will help students to gain industrial operations knowledge on handling & programming industrial robots for various tasks, wherein such Robots are widely used in different field of applications in India such as Automobile, Manufacturing, Production, etc…

ACE's Robotics Center had an addition of **HUMANOID ROBOT.** ACE's Robotics Training Center is **INDIA'S FIRST HUMANOID ROBOTICS CENTER** amongst Private Engineering Colleges in India, **implemented with "ALDEBARAN NAO EVOLUTION HUMANOID ROBOT"** & can perform Multitude of operations. The first batch of Humanoid Robotics Training Program was opened to students of ACE on 17/07/2017. The Humanoid Robotic Platform is packed with CHOREGRAPHE & WEBOT SIMULATION SOFTWARE & can support multi language programming. This highly equipped Humanoid Robotics Center will help students to gain knowledge on multi language programming on Humanoid Robots & help them to explore Artificial Intelligence & various other domains to designs & develop Robots to behave as Humans, as the future of Robotics is Hospitality & Service Platform Robots on which wide research is carried globally.

Recently ACE's Robotics Center had an addition of **HOSPITALITY & SERVICE ROBOT.** ACE's Robotics Training Center is **INDIA'S FIRST HOSPITALITY & SERVICE ROBOTICS CENTER** amongst Private Engineering Colleges in India, **implemented with "SANBOT" Hospitality & Service Robot** & can perform Multitude of operations. The first batch of SANBOT Robotics Training Program was opened to students of ACE on 11/02/2019. The Hospitality & Service Robot Platform is packed with MPS SOFTWARE & can perform multitude of operations. This highly equipped Hospitality & Service Robotics Center will help students to gain knowledge on Artificial Intelligence & various other domains to designs & develop Robots to functions as Hospitality & Service Robot Platform.

Apart from above mentioned, ACE's Robotics Center is equipped with **High End Drones** which gives exposure to students on **recent trends in innovation & technology in Robotics & Artificial Intelligence**.

Also, to an addition, ACE's Robotics Center have procured a 6 Feet Tall Humanoid Robot Sculpture made of Steel & can move it's Head around & installed with lights at various parts of the sculpture, demonstrating **Research, Technology & Innovation at Atharva.**

**ACE's Robotics Center will be a milestone in the field of Research, Technology & Innovation & will boom the placement opportunities for students of ACE.**

## PROCEDURE

| Sr. No | Procedure | Responsibility |
|---|---|---|
| 1 | Notice for Registration | Coordinator |
| 2 | Informing Eligible candidate about their scheduled Entrance Test batch respectively via email | Lab Assistant |
| 3 | Preparation of Entrance Test Time Table as per Registration | Lab Assistant & Coordinator |
| 4 | Informing Eligible candidate about their scheduled batch respectively via email | Lab Assistant |
| 5 | Distributing batches to Robotics Center team members as per availability | Lab Assistant & Coordinator |

| | | |
|---|---|---|
| 6 | Conduction of respective batch by respective faculty member | Coordinator/Respective Faculty Member |
| 8 | Conduction of Exam on last day of training | Coordinator/Respective Faculty Member |
| 9 | Issuance of certificates to eligible candidates | Coordinator |
| 10 | Meeting of all Team members at end of semester to discuss on various issues/growth paths. | Coordinator |

## BENEFITS OF ROBOTICS TRAINING COURSE

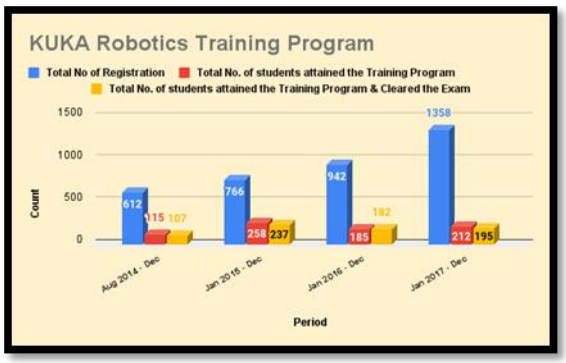
1. With the introduction of cognitive and automation learning, Robotics widens the learning curve to a far greater extent
2. A robotics training course opens up the gateways of innovation and creativity
3. With the problem solving approach and enhanced ability to think analytically, A training in robotics will make an individual a pro in building models of robots and designing them
4. Students will get an opportunity to construct knowledge and build theories, thus, strengthen their understanding of Science, Technology, Engineering and Mathematics (STEM) in collaborative settings
5. Robotics Training Program also attracts students to content domains such as Mechanics, Electrical Circuits and Applied Mathematics
6. Robotics Training Program will help teach students on how to communicate across different technology platforms
7. Logic Building & Programming
8. Hands-on Learning & Engagement
9. Robotics Training Course helps Boost Placement Opportunities for the Student's

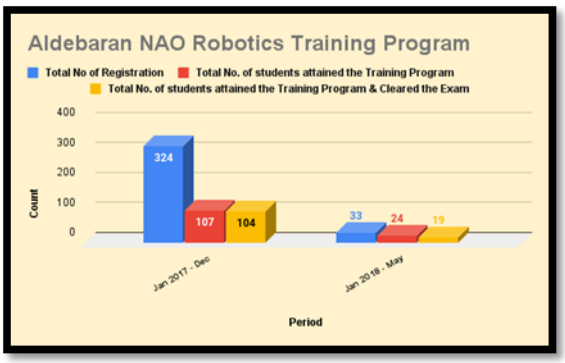
## ACHIEVEMENTS

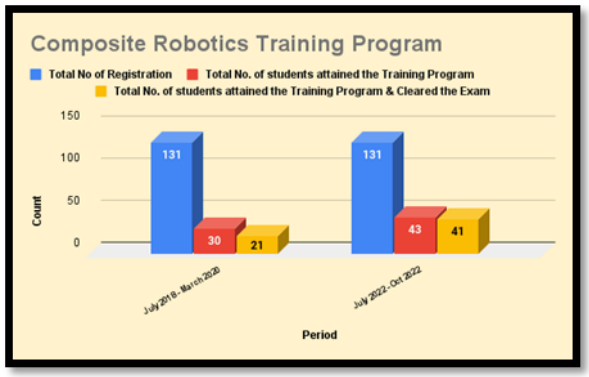
- Mr. Amit Padhy (EXTC-2017 Batch) had his final year project on 6-Axis Robot Prototype & has successfully converted it into startup named M/s AVP Robotics Pvt Ltd.
- Participation in ROBOCON-2022, International Robotics Competition by team of students from Atharva College of Engineering on self-finance basis
- Participation in Smart India Hackathon-2022 with the project titled Autonomous Robo Cart by team of students from Atharva College of Engineering
- Participation in Flipkart Grid 3.0 & 4.0 Robotics Competition by team of students from Atharva College of Engineering

# STUDENT DETAILS

Till Date 770 students have successfully completed KUKA KR-16-2 C4 Industrial Robot Training, 131 students have successfully completed Aldebaran NAO Humanoid Robot Training & 73 students have completed Composite Robotics Training Program of 40 Hours which includes training on Industrial, Humanoid, Hospitality & Service Robots & UAVs




# FUTURE PLANS

- **Training**: The training program targets to cover a minimum of 150 students for course for year 2023
- **Course**: Planning to enhance robotics center by introducing new accessories and peripheries to the current setup and plans to introduce automation lab equipped with industry 5.0 setup is proposed. Further enhancements in varied fields of robotics is proposed
- **Projects:** Final Year B.E. Projects are focused on Robotics & Robotic Arm Prototype
- **Industry/Education Sector:** Approach towards attraction of Industry Professionals & other education Sectors are targeted for training on Robotics subject to feasibility

# STUDENT UTILIZATION

- Students are explored to Composite Robotics Training Program over and above their academic syllabus
- Students are explored to the state of art lab equipped with Hi-Tech equipments and Simulation lab equipped with 3D computers and necessary peripheries
- Students are motivated to publish research papers in the field of robotics
- Hands-on training sessions are provided to the students to explore them to practical industrial setup


# ATHARVA ROBOTICS CENTER

**EXCELLENCE REDEFINED…**