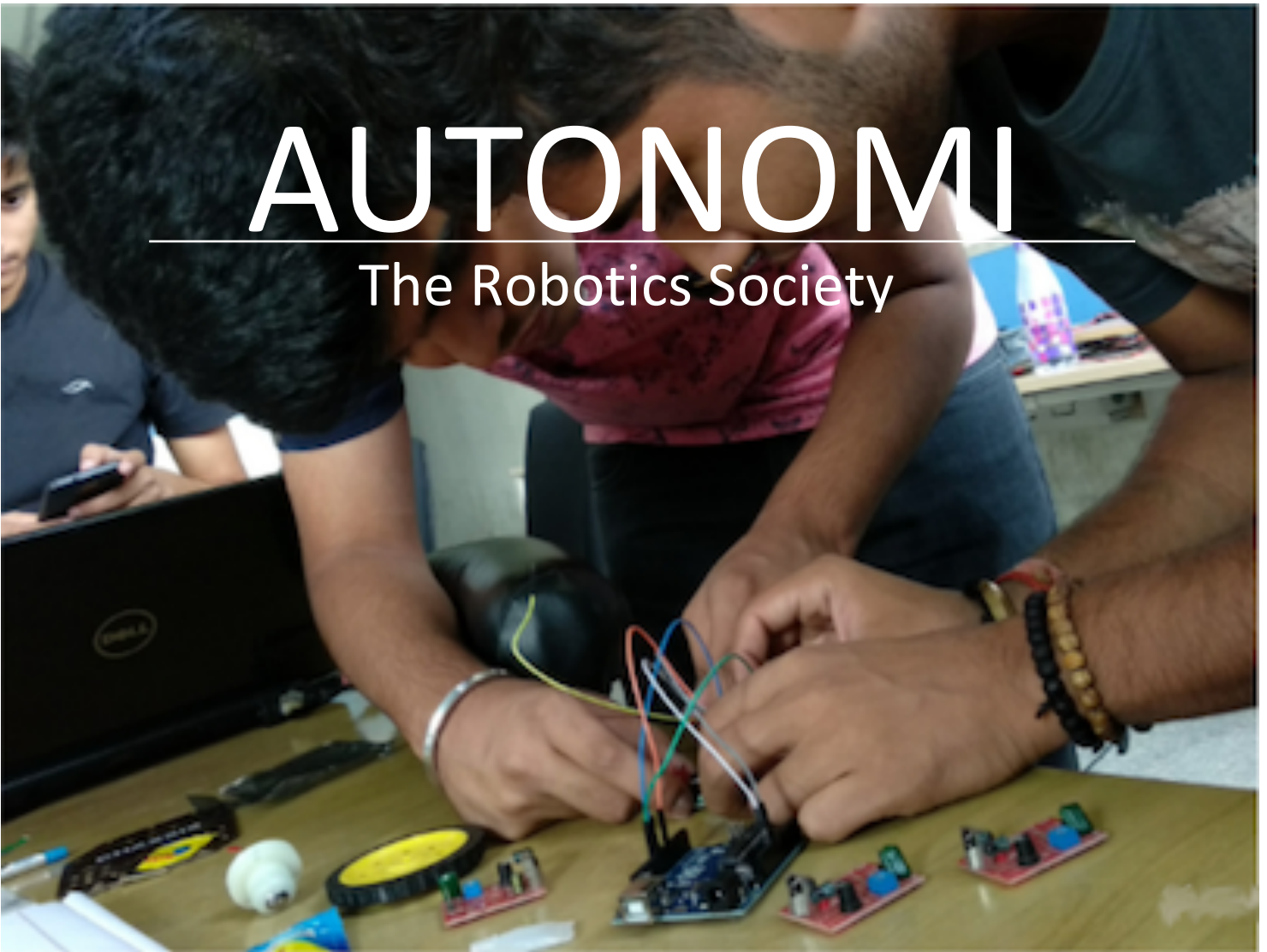


# AUTONOMI

The Robotics Society



**Autonomi is a student driven society which gives freedom to every member to break the shackles of stereotype thought process and dwell a sense of “out of box thinking”. It provides a platform to automate and solve real life problems and deliver solutions via robotics. With freedom to develop, passion to equip and strategy to learn, Autonomians have created a congenial learning environment. A hunger to automate and innovate anything and everything around has been a motivating factor.**



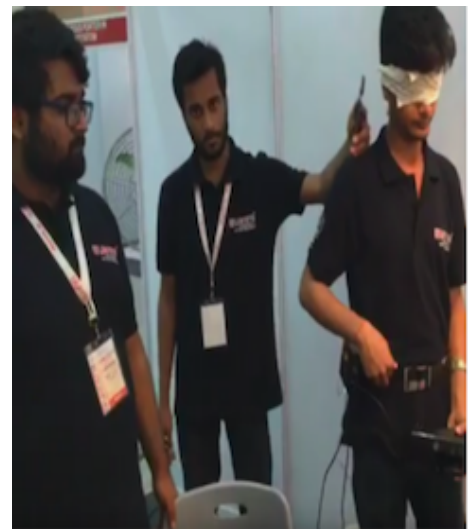
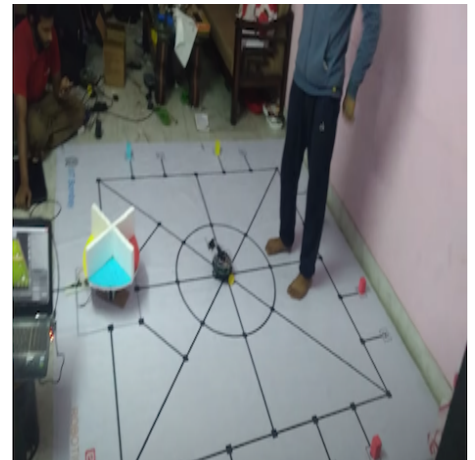
## Glimpses of some project

### A. Transporter Bot

The aim of this project was to make the transporter bot that would collect the crates from the Agricultural fields and deposits them in the truck. The simulation was processed in 'Blender' .

### B. Belt for Blind

The belt helps a blind person in navigating through their surroundings. It also helps them to know the objects around them along with the distance from that object. It uses an ultrasonic sensor that helps in finding the distance.







## Glimpses of some project

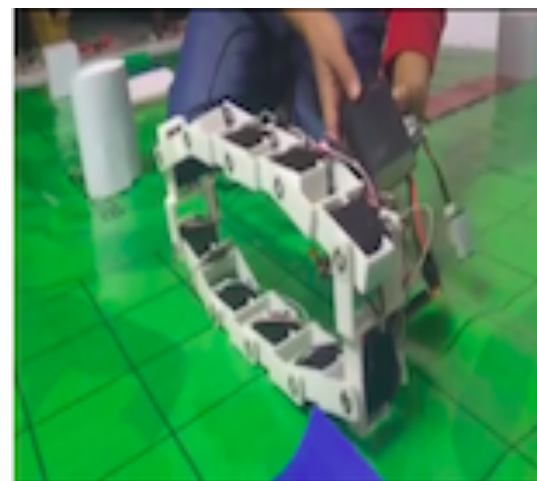
### C. Self Balancing Skateboard

The main motive to do this project was to give a daily transporter vehicle which is **easy to use** and **reduces the risk of accident**. The Mechanical design of the board consists of two dc gear motors, one motor driver, one arduino microcontroller, one MPU-6050, one 24V battery.



### D. Spotter Snake

It is a remote controlled snake-like structure which rolls to form a ring shaped structure. We present a novel approach for an artificial snake which can fold, unfold, locomote and even turn sideways without taking much space or time. The chassis has been 3D printed and its movement is controlled by a number of servos. The communication between the snake and the joystick has been handled through NRF wireless communication.





## Glimpses of some project

### E. Gesture Controlled Robotic Arm

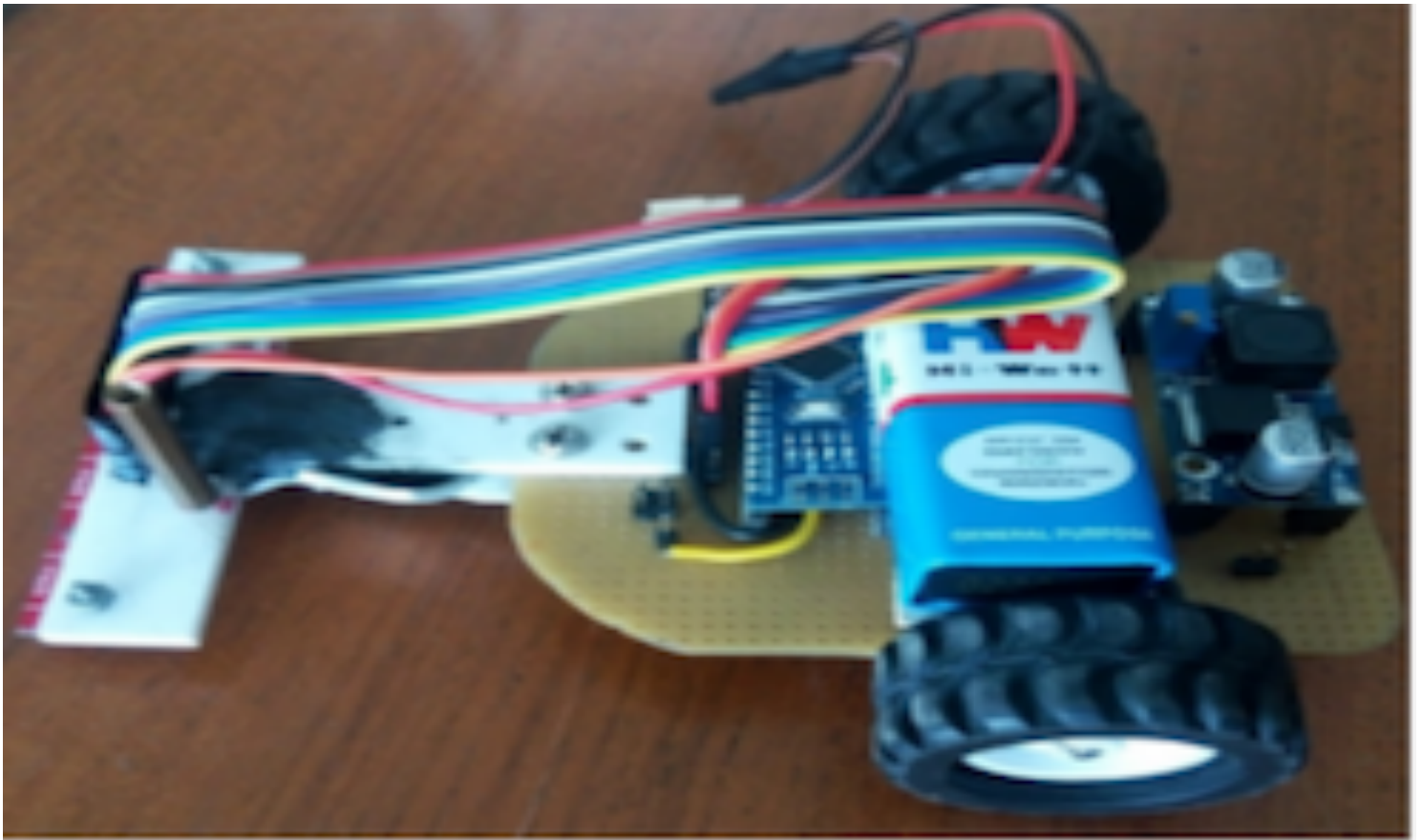
The aim of this project was to control a robotic arm through human gestures. The robotic arm should mimic the motion of the user's arm. For this, **a) Dexter ER-2 Arm by Nex Robotics** which has 5 DOF and **b) Microsoft Kinect** for tracing the gestures of the human arm were used. On software front, an open source package **OpenNI Tracker** based on **ROS** was used for tracking human skeleton and **Arduino IDE** for controlling Dexter Arm.

### F. Swarm Robot

Aim was to coordinate multiple robots to do the same task which a single robot cannot do. It facilitates to complete a task faster as compared to other individual robots. The key component of this projects is communication and continuous feedback to the control system.



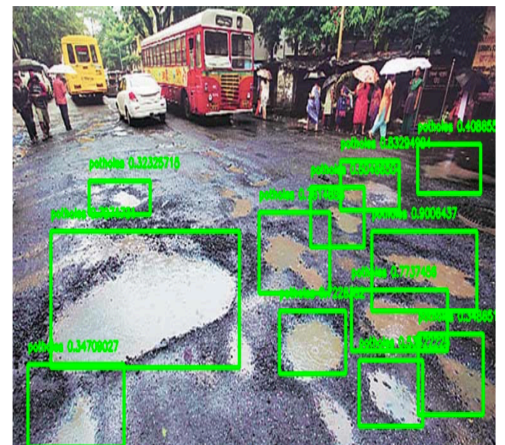




## Glimpses of ongoing projects

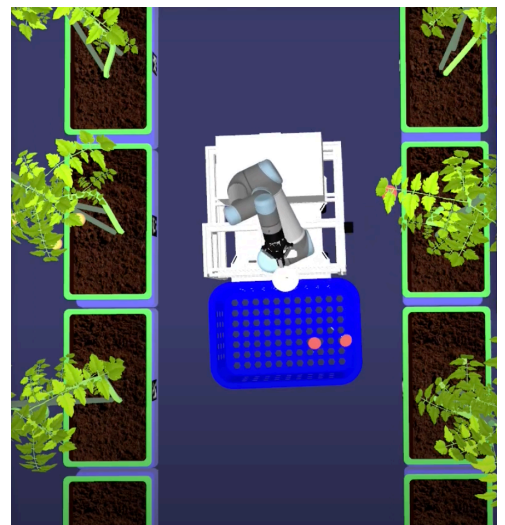
### A. AI Powered Navigation for VI

The project aims to develop wearable tech for visually impaired people to help them to know what is happening around them and to navigate from one place to another by using artificial intelligence, machine



### B. AgriBot

AgriBot uses an autonomous Ground Vehicle (AGV) to traverse in a simulated Greenhouse environment, find the targeted yield and correctly execute pick-&-place. The AGV is retrofitted with a customized gripper to easily plug yields, and so is the created environment ensured to compile with the gripper.



# EVENTS

1. Bootcamps
2. Workshop for Teachers
3. Workshop for school and college students
4. Annual Techfest - Convoke
5. Hackathons





# EVENTS

## CRIP - 2018

CIC Robotics Internship Programme, abbreviated as CRIP, is an initiative taken by AUTONOMI, the Robotics Society of Cluster Innovation Centre, University of Delhi.

CRIP was a two months-long programme, where students chose and hence developed the projects (in a team), specialized in Robotics, which were submitted by mentors who in turn guided them to achieve their set targets. These projects were also under the supervision of professors and industrialists, who have an eminence and deeper understanding of industry. These experts were available to the students for interaction during the crucial breakpoints of their project.

The aim of CRIP was to create an opportunity for students to work on practical projects in Robotics under the mentorship and guidance of expert professors, industrialists and researchers.

The main objectives of this programme was to:

- ❖ Provide a platform for students for summer internships in robotics.
- ❖ Create a bridge between our mentor's practical experience and depth of knowledge, and budding roboticists in the community.
- ❖ Promote Robotics and Autonomi @ CIC.

The overwhelming number of applications we received for students showed that there was an immense interest among the students seeking opportunities in the field of Robotics. We received 74 applications, in a window of about 3 weeks, out of which 9 students were accepted after a round of interview and discussion with the mentors of the respective projects.

