

REPORT  
ON  
**“UDBHAV 2.0 WORKSHOP”**



**Udbhav**<sub>2.0</sub>  
Innovation follows Technology



## Robotics Event

Presented by department of ECE, GUIST in collaboration with  
Technomate Pvt. Ltd. under MHRD TEQIP-III

## Theme : Swach Bot

2nd October, 2018 at GUIST, New Building

*Organized By*

**Department of Electronics and Communication Engineering**

*In collaboration with*

**Technomate Private Limited**

**GAUHATI UNIVERSITY INSTITUTE OF SCIENCE AND TECHNOLOGY,  
GUWAHATI- 781014 (ASSAM)  
2<sup>nd</sup> OCTOBER 2018**

## **INTRODUCTION**

These robotics technologies are used to develop machines that can substitute for humans. Robots can be used in any situation and for any purpose, but today many are used in dangerous environments (including bomb detection and de-activation), manufacturing processes, or where humans cannot survive. Robots can take on any form but some are made to resemble humans in appearance. This is said to help in the acceptance of a robot in certain replicate behaviors usually performed by people. Such robots attempt to replicate walking, lifting, speech, cognition, and basically anything a human can do. Many of today's robots are inspired by nature, contributing to the field of bio-inspired robotics.

The concept of creating machines that can operate autonomously dates back to classical times, but research into the functionality and potential uses of robots did not grow substantially until the 20th century. Throughout history, it has been frequently assumed that robots will one day be able to mimic human behavior and manage tasks in a human-like fashion. Today, robotics is a rapidly growing field, as technological advances continue; researching, designing, and building new robots serve various practical purposes, whether domestically, commercially, or militarily. Many robots are built to do jobs that are hazardous to people such as defusing bombs, finding survivors in unstable ruins, and exploring mines and shipwrecks. Robotics is also used in GUIST (Science, Technology, Engineering) as a teaching aid.

### **Abstract:**

The robotics event report initiative of Gauhati University Institute of Science and Technology Students in creative activities that builds motivation for their future engineering studies. The GUIST Students has always attempted to put more emphasis on hands-on learning and training for fellow students through various workshops, event and training sessions. As a part of such activity, workshop session on basics of robots and robotics are being conducted for the last 1 year. Participation has been from a wide range of backgrounds, from different streams and different undergraduate levels. Initial aim of such type of event sessions was to motivate students in design, estimation, fabrication and testing their own ideas of basic controlled robots. During the course of events in last couple of month several interesting findings could be identified. It is felt that in order to perform well in their workplace, as well as to be responsible citizens, students

are required to not only develop mastery of a particular subject, but civic, social, interpersonal and workplace skills as well. In addition to reinforcing concepts from earlier and concurrent courses, such workshops can serve as a platform for exposing students to inter-disciplinary topics that appear in greater depth in later courses. Also, students mature in areas such as oral and written communication, awareness of professional ethics issues, and working effectively in a team-based setting. Mixing of students from different disciplines and different grades greatly enhances sense of fellow feeling and team spirit. Such event, being conducted by students themselves, increases the sense of belongingness, inculcates maturity, sensibility, leadership qualities among the organizing students.

### **Day of Robotics Event and Club formation**

On 2nd October (Gandhi Jayanti) 2018, ECE department of Gauhati University conducted a robotics event named “UDBHAV 2.0” as well as inauguration of robotics club on “Introduction to Robotics and its application for day to day life’s.” This event was conducted by 3<sup>rd</sup> year 5<sup>th</sup> semester Students of GUIST. First our respected Vice chancellor of our University Dr. Mridul Hazarika talked about this robotics event and its activities conducted in our college and presented a keynote on “Introduction to Robots and Robotics”; Second Dr. Eeshankur Saikia sir head of the department of Applied Science , presented keynote on “Introduction to Robots and its application in our day life’s; lastly Dr. Kandarpa Kumar Sarma head of the department of ECE, presented lamp ceremony with its valuable suggestion and appreciated to all members of the robotics event uses and applications of robots. The event comprises of “Line follower Robot with theme of Swachh Bot” using Arduino coding. Around 75 students from 1st Level Electronics and Communication and Computer Science and Information Technology branch took part in this event.

In the first session students got familiar with the term Robot and give one problem to solve using line follower robot, how to identify whether a machine is a Robot or an autonomous bot, Robotics, Aspects of Robotics, philosophy of AI (Artificial Intelligence), Brief on Machine Learning and types of Robots. Informative videos from Technomate Private Limited were shown to students.

In the second session a brief introduction to Arduino was given 1st Year students. They got familiar with various development boards of Arduino and learnt the development environment for Arduino. Working with Arduino I/ O pin was taught and functions of various embedded components were explained. Later we can provide an all necessary hardware components to participants and coding part can be done by participant own self.

In the third session, first stage round can be completed. Out of 16 group, 6 group can be completed first round and qualify second round of this event. After tea session we start final round of this event and finally declare the result of this robotics event. Final result declares by CEO of Technomate Mr. Achinta Saha. The first prize goes to team “**Jibontro**” , Debalina Banerjee and Akashjyoti from 7<sup>th</sup> semester student in department of ECE and they have got a point 108 out of 120 marks. Second prize goes to team “**Prime movers**” , Suman Bhowmick, Nupur Choudhury and Chinmay Kalita from 7<sup>th</sup> semester student in department of ECE and they have also got 108 points. Third prize goes to team “**Spectrum**” , Vharabi Sonowal, Antu Bordoloi and Kishore Kumar Jha from 3rd semester student in department of ECE and they have got 107 points.

## Event Schedule

TIME	EVENT
2 <sup>nd</sup> of October 2018 ( Saturday )	
9:00 am - 9:15 am	ENTRY TIME
9:15 am - 9:45 am	INAUGRATION OF UDBHAV (A ROBOTICS INNOVATION CLUB)
9:45 am - 10:00 am	TEA BREAK
10:00 am - 2:00 pm	WORKING SLOT
2:00 pm - 2:45 pm	REFRESHMENT
2:45 pm - 8:00 pm	WORKING SLOT
4:00 pm - 5:30 pm	EVALUATION
5:30 pm - 6:00 pm	TEA BREAK
6:00 pm - 7:30 pm	PRIZE DISTRIBUTION AND CLOSING CEREMONY

### **LEARNING OUTCOMES**

- Students will gain an appreciation of the effort needed in construction and have a sense of achievement with something they have made.
- Students are encouraged to try their hand at assembling and modeling of Robots.
- This is a creative approach to the learning of science through real life exposure, mechanical innovation and simultaneously promotes to do hands on projects on Robots.

### **CONCLUSION..**

- Students learned about the robots and assembly.
- Students will be able to participate in the Technical Festival and Robotic events organized by various institute. This in turn will enhance the name and fame of our Institution.

## **Members Robotics Club**

<b><u>MENTOR</u></b>	:	Prof. Manab Deka, DIRECTOR, GUIST
<b><u>CHAIRPERSON</u></b>	:	Prof. Kandarpa Kumar Sarma, HOD, ECE
<b><u>CORPORATE COLLABORATOR</u></b>	:	Technomate Edubotics Pvt. Ltd, Guwahati
<b><u>ADVISORY BOARD</u></b>	:	
		Prof. Kandarpa Kumar Sarma
		Prof. Shikhar Kr. Sarma
		Vaskar Deka
		Dr. Kandarpa Kumar Saikia
		Dr. Eeshankur Saikia
		Dr. Navamita Deb
		Dr. Parismita Sarma
		Dr. Mirzanur Rahman
		Anjan Kumar Talukdar
		Apurba Bikash Kalita
		Aradhana Misra
		Chandan Kalita
		Jyoti Prakash Medhi
		Kishore Kashyap

Manash Pratim Sarma

Satyajit Sarma

Amitava Dey

Ashok Mahato

Naorem Yaipharenba Meitei

**STUDENT REPRESENTATIVE (ECE) :**

B.TECH 1<sup>st</sup> YEAR : Vishal Agarwal

B.TECH 2<sup>nd</sup> YEAR : Probin Gupta

B.TECH 3rd YEAR : Vikash Mishra

B.TECH 4th YEAR : Akash Jyoti Banik

M.TECH 1<sup>st</sup> YEAR : Mridusmita Choudhary

M.TECH 2<sup>nd</sup> YEAR : Sudarshan Goswami

RESEARCH SCHOLAR : Mrinmoy Sandilya

**STUDENT REPRESENTATIVE (IT) :**

Roshan Kumar Gupta

**MEMBERS**

: All student and staff of Department of ECE, IT, BIO ENGINEERING and Applied Sciences and any willing GUIST/GU student , research scholars are members of the robotics club.

## **UDBHAV 2.0 ORGANISING TEAM**

### **CORE TEAM**

1. Atlanta Rabha Choudhury
2. Chiranjeev Das
3. Debarshi Keot
4. Harindra N. Prasad
5. Kamakhya Pajiyar
6. Roshan Kumar Gupta
7. Vikash Mishra

### **Support Team**

1. Manish Das
2. Samadrita Bhuiya
3. Probin Gupta
4. Danish Ahmed.
5. Vishal Agarwal
6. Bhavna Kumari



# Photographer

1. Souvik Kar

## Participant Names

SL.NO.	TEAM NAME	TEAM MEMBERS	Remarks
1.	<b>The Legends</b>	1. Manoranjan Koch 2. Devannngshu Buragohain 3. Pankaj Das	
2.	<b>B.I.A</b>	1. Ashoka Prasad Rauniyar 2. Ifthikar Mazumdar 3. Bhaswadeep Purkayastha	
3.	<b>Hack Militia</b>	1. Sanjay Chaudhury 2. Saharul Haque Choudhury 3. Momi Begum Laskar	
4.	<b>Matrix</b>	1. Nishu Jha 2. Roshan Singh 3. Priyanka Dutta	
5.	<b>Meganix</b>	1. Baishali Purkayastha 2. Pranab Kumar Kataki 3. Raja Ali	

6.	<b>I.Robo</b>	1. Arunabh Bora 2. Mirza Ejaj Hussain 3. Jyotishman Deka	
7.	<b>Jibontro</b>	1. Debalina Banerjee 2. Akashjyoti Banik	First
8.	<b>Team Horucus</b>	1. Baibhab Das 2. Jyotishman Thakur 3. Soomaiya Akhtar Khan	
9.	<b>Bingo</b>	1. Pankhi Kashyap 2. Nandini Ghosh	
10.	<b>The Unknowns</b>	1. Kunal Kingakar Das 2. Kaustav Kamal Parashar 3. Sanjay Nath	
11.	<b>The 39<sup>th</sup> Aero Squad</b>	1. Gunjan Phatowali 2. Britidipta Saha 3. Bishal Gupta	
12.	<b>The ace</b>	1. J M Sakir Laskar 2. Manoj Kalita 3. Bharat Bhusan Saikia	
13.	<b>Spectrum</b>	1. Vharabi Sonowal 2. Antu Bordoloi 3. Kishor Kumar Jha	Third
14.	<b>Prime movers</b>	1. Suman Bhowmick 2. Nupur Choudhury	Second

		3. Chinmoy Kalita	
15.	<b>The D.O.T</b>	1. Nilkamal Bhagawati 2. Kunal Kaushik 3. Bhargov Borah	
16.	<b>Vision</b>	1. Saurav Deka 2. Ankur Kalita 3. Deepak Mazumdar	

## Event Photograph















