IEDC MISSION

Develop an institutional mechanism to create an entrepreneurial culture in Sahrdaya and the nearby places to foster growth of innovation and entrepreneurship amongst the faculty, students and common people.

IEDC OBJECTIVES

- **To act as an institutional mechanism for providing various services including information to budding entrepreneurs and innovators**
- **To create, inspire and empower a young generation of self reliant individuals and to take them a step ahead for the development of the nation by developing an entrepreneurial and innovative mindset**
- **To foster the entrepreneurial culture through an incubator centre and innovation promotion**
- **To respond effectively to the emerging challenges and opportunities both at national and international level.**

- ## Organisational Structure of IEDC

Academic Forum: Official Committee of College consists of Management Representatives, Principal, HODs, FG Coordinators and Faculty Representatives.

Nodal Officer & Coordinator: IEDC FG Head and official representative of college regarding Innovation and Entrepreneurship development as per Govt. order (Ref: GO Ms. No: 499/2012/H.Edn dt 11.10.2012)

Mentor Panel: A panel of experts who advice Nodal Officer& Coordinator. Nodal Officer can add members to mentor panel based of expertise required to Guide the functioning of IEDC.

IEDC faculty Committee: One Faculty Representative from Each Department appointed by Principal

TBI: Technology Business Incubation Project of Sahrdaya

IEDC Facilities: Various collaborative facilities promoted by IEDC towards an innovation friendly entrepreneurial ecosystem development at Sahrdaya.

IEDC Skill Club: various clubs promoted by IEDC for the purpose of skill development attitude among the students. This clubs are aiming to create a maker culture among the students.

Start-up Boot camp: The Government of Kerala has created the "Start-up Boot camp" Program wherein it is envisaged to create a start-up ecosystem in each and every college campus through active involvement of students. Boot camp is a student-focused program.

The Executive Committee shall undertake the day---to---day management of the Start-up Boot camp. The Executive Committee shall comprise the following roles and their responsibilities are as follows:

I. CEO - Chief Executive Officer

II. COO - Chief Operating Officer

III. CMO -Chief Marketing Officer

IV. CFO-Chief Financial Officer

V. CTO -Chief Technical Officer

VI. CCO- Chief Creative Officer

VII. CSO - Chief Social Officer

Additionally, the Boot camp shall have representative Vice Presidents from each class to assist the Executive Committee.

2020

K-DISC

STRATEGIC ADVISOR
Dr. P.V Unnikrishnan
Former Member, Kerala State Planning Board

off: +91 471 233 4472
strategicadvisor@kdisc.kerala.gov.in
mob: +91 944 777 2818
pvunni31@gmail.com

No. YIP/Final Selection/ 2019-22 dated 16/01/2020

Dear Young Innovator,

Greetings from Kerala Development and Innovation Strategic Council (K-DISC), and Young Innovation Programme (YIP). I am extremely happy to inform you that subject to updating of the student records called for, your group has been adjudged as one among the hundred and two best innovative ideas for YIP 2019-22.

Idea no : 54

Idea Name : Mixed reality based health assist

A special window of mentoring, scholarships, grants and specialised nurturing is open to you. This is by no means a small achievement! Congratulations! We look forward to your proactive involvement in the program.

For one selected member from your group we extend a special invitation to be in Thiruvananthapuram Jawahar Sahakarana Bhavan, DPI Junction, Jagathy at 9.30am on 22nd and 23rd January 2020 Wednesday in the National Knowledge session for upcoming innovators and entrepreneurs. You are also invited to attend the first Kerala Innovation Day inaugurated by the Hon'ble Chief Minister and for a special photo session of YIP 2019-22 winners with the K-DISC and Kerala Startup Mission. You will be provided gender specific shared accommodation at Thiruvananthapuram for 2 days of your choice from 22nd to 24th. The programs are only beginning. We will soon come back with a detailed plan.

Looking towards to a three year joint journey to excellence and eminence.

Best Wishes,

Yours Sincerely,

Dr P V Unnikrishnan

- Two teams from our college selected for Kerala Reboot Hackathon .

  Team 1

  Team leader : Lucia Maria Joseph

Mentors: Ms. Shilpa K P, Ms. Ann soniya

Team 2

Team leader: Hinna Jilson

Mentors: Ms. Supriya, Mr. Jibin Jose

Both teams got selected for ideas presented in health care section. Also one team is waiting list for Idea in agriculture area.

Team 3

Team leader: Fabius M Thottappalli

Mentor: Ms. Anju Babu

- Our 2019 batch student Manu is awarded with Young Innovator Award at Kerala Innovation Day on 16/01/2020

- Zaara Biotech got an investment from UAE (manufacturing facility is going to start at Sharjah) and University of Sharjah collaborated for R&D (with masters admission to the students) on 20-02-2020

- Our students participated at Kerala Startup Mission Hackathon on Women and Business better through Technology at Reboot Hackathon of Govt of Kerala from 5th to 8th march 2020.We won the third prize the team consisting for Biomedical students.

- BME alumni John Padamadan was Honoured by the CEO of ICT Academy of Kerala, Mr. Santhosh Kurup, for coordinating Techathalon 2020 as part of ICT academy's international conclave ICSET 2020 on 12th March 2020

Our college is selected for the premium Membership of ICT Academy of Kerala of Govt of kerala.

- A 5 Day Online Python Bootcamp for beginners was conducted by Hardware Club of Sahrdaya from September 3rd to 7th 2020.

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- The Selection process of IEDC student boot camp was conducted on 7th to 13th september 2020.

- 

Following students are selected as Executive committee member of IEDC student start up Boot camp

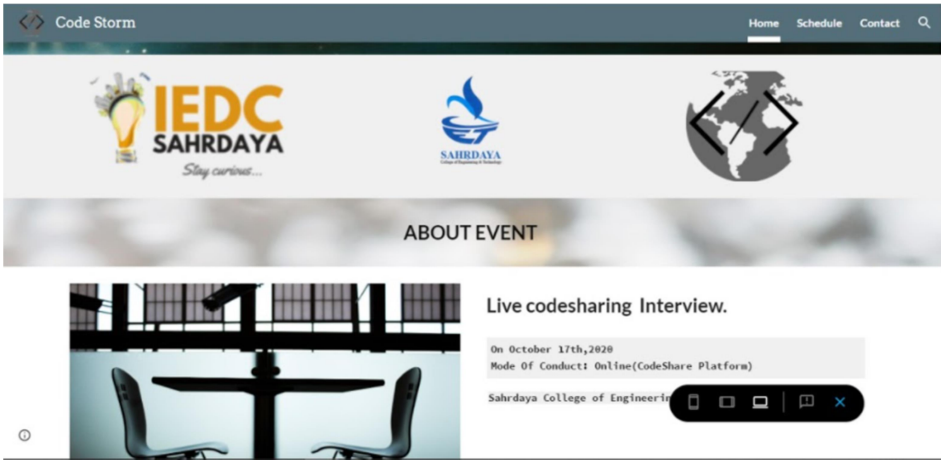
- **Chief Executive officer-Anze Joshy (S7 BM)**
- **Chief Technical officer-Mr Gregory C(S7-EC)**
- **Chief Operating officer-Mr Roni Shaji(S5 BTE)**
- **Chief Creative officer-Mr Christo John(S5 CS)**
- **Chief Financial officer-Ms Christina Pathrose(S7 BT)**
- **Chief Social officer-Ms Ananya Menon(S5 EE)**
- **Chief Marketing officer-Mr Elwin Jose(S3 CS)**
- **Hardware Club Staff in charge-Dr Vishnu Rajan**
  Student in charge-Mr Christo P B
- **Coders Club Staff in charge-Ms Divya R**
  Student in charge-Mr Jobel Johnny
- **Creative Club Staff in charge-**
  Student in charge-Ms Anjali P S
- **Future Club Staff in charge-Dr Arun Thomas**
  Student in charge-Mr Govind T

- On 1st October 2020, the newly formed Execom in 2020 had conducted an IEDC farewell for the Execom team 2018-2020.

- On 2nd October,2020, the Media Club headed by Anlin Babu had released a video- "Bon Adieu-Execom 18-2020"
- Video URL: https://www.youtube.com/watch?v=KVW_ckA7xGA

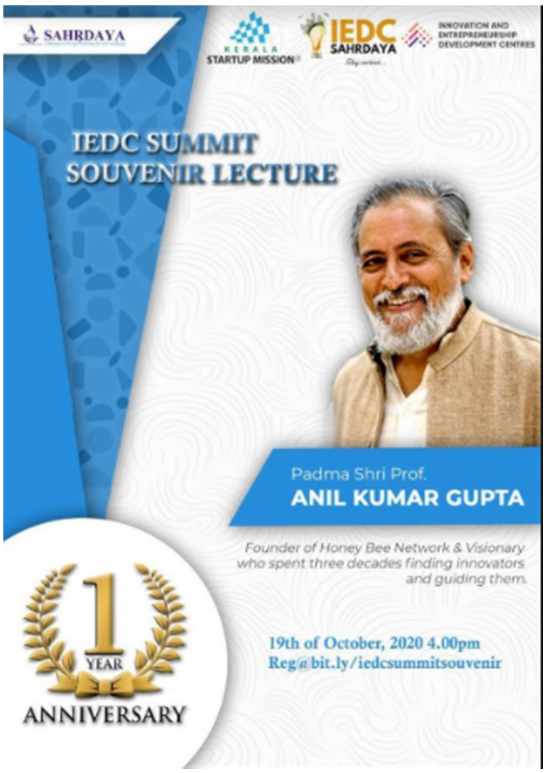
- · From 14-30th October 2020, IEDC CMO - Elwin Jose held a Talent hunt week during which skills of talented students of Sahrdaya were released as videos on social media platforms.

- On 17th October 2020, the Coders Club headed by Jobel Johny held Codestorm (Mock Interview).



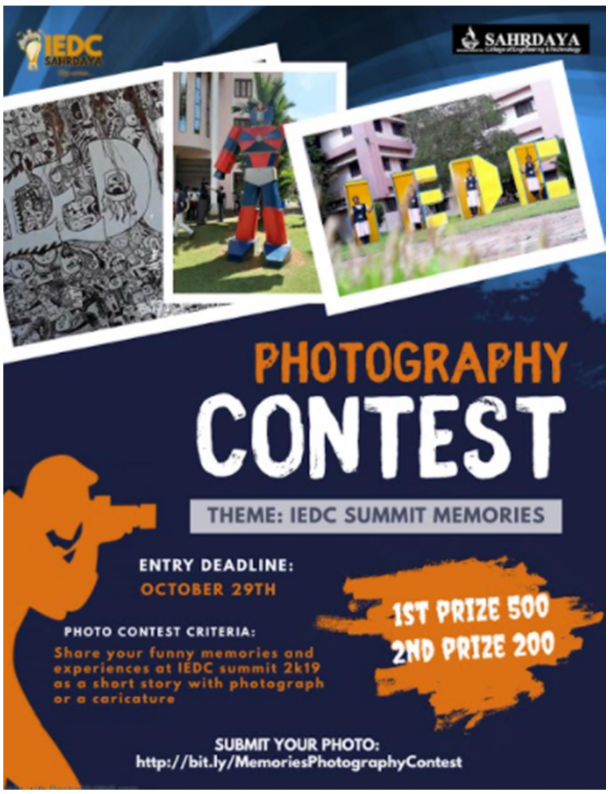
- On 17th October 2020, the FutureTech Club headed by Govind T held the Inauguration of future tech club and panel discussion of future technologies with Avishkar hyperloop team.

- On 19th October 2020, we had conducted an IEDC Souvenir Lecture to mark the one-year anniversary of IEDC Summit.



- From 27-30th October 2020, the Hardware Club headed by Christo P.B held C++ Evening Café for Girls.

- On 31st October,2020, we had conducted a Memories Photography Contest.



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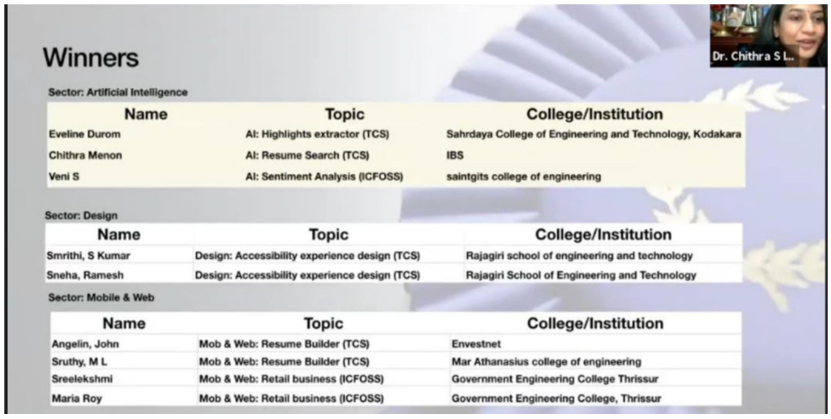
· Eveline Durom had successfully achieved a task on" Solving AI problem by TCS: Highlights Extractor TCS" from WhyHack Hackathon.



· From 5th November-10th December,2020, the Creative Club held a Doodle Art Competition

· On 7th November 2020, the, the Media Club headed by Anlin Babu had released a video- "Iedc gbm 2.2 celebration meetup"

- Video URL: https://www.youtube.com/watch?v=__COeItu3Mc

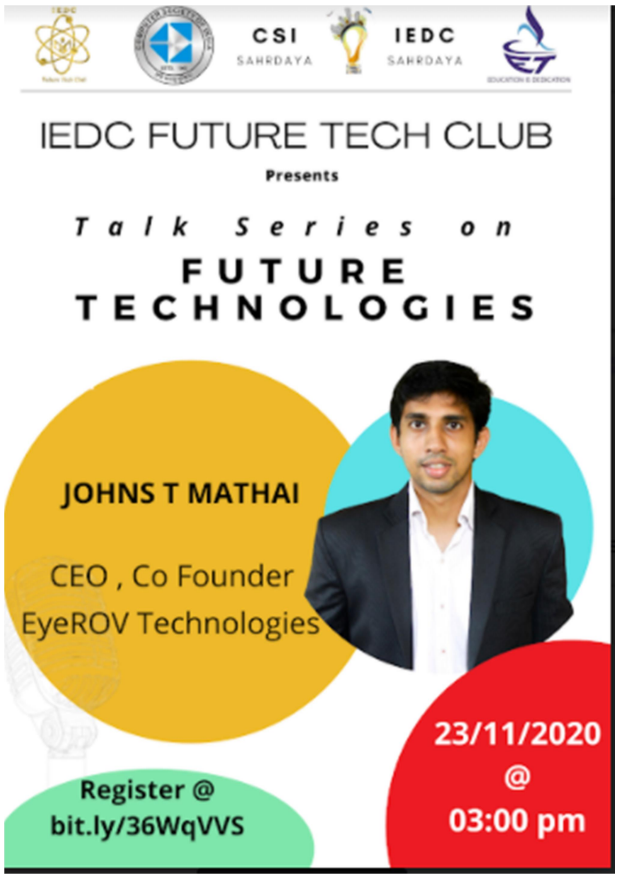
· From 11th November,2020-present, IEDC CMO - Elwin Jose held an Inspiration week

· From 16th-22nd November 2020, IEDC CMO - Elwin Jose held a Global Entrepreneurship Week.

· On 17th November 2020, the Media Club headed by Anlin Babu had released a video- "A year with Covid-19 Pandemic"

- Video URL: https://www.youtube.com/watch?v=nenVFSx7Zp4&feature=youtu.be

· On 23rd November 2020, the FutureTech Club held a talk series on Future Technologies by Mr John T Mathai CEO,Co Founder of EYEROV Technologies.



· On 25th November 2020, we had conducted an" Introduction to IEDC (for first years)"

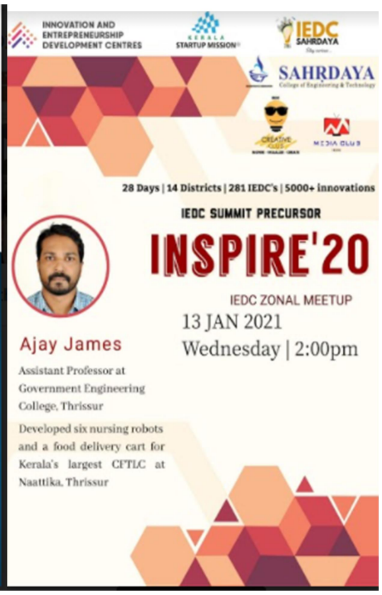
· On 25th November 2020, Ideation competition for 1st years was held by Sahrdaya CET. 13 teams of first years were mentored by 2-3 mentors in each team.

On 16th December 2020,a talk on Opportunities for Engineering Students in INDIAN AIR FORCE by Wing Commander SNEHA Singh.

IEDC Activity Report

2021

13th January 2021 : INSPIRE 2021 was conducted by IEDC Sahrdaya

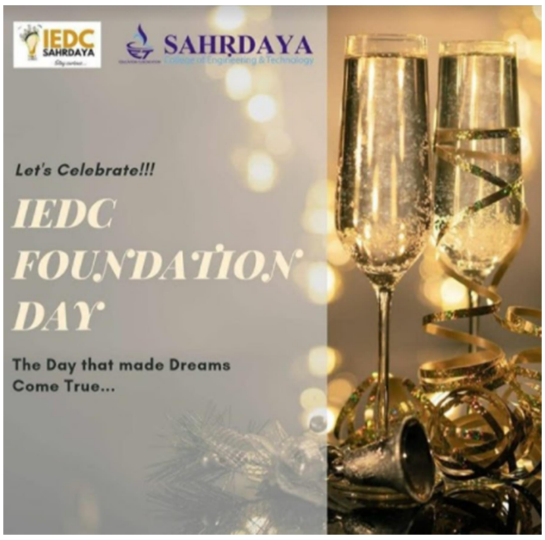


31st January 2021 : Event "MATRIX" conducted by Coders club of IEDC SahrdayaMATRIX" was a Competitive Coding Competition conducted to help students with their coding ability.Around 70 students participated from all the four years, from various departments.

4th February 2021: Social media and career management was conducted by IEDC Sahrdaya

14th February 2021 – 20th February 2021: Valentines day photography contest was conducted by the media club.

10th March 2021: IEDC FOUNDATION DAY poster released on Instagram



16th March 2021- 22nd March 2021 : "Video Making Challenge on Water Conservation" conducted by Media Club & Eco Club of IEDC Sahrdaya

21st April 2021 : Release of #stayhome video on instagram.Released short awareness video on Instagram urging people to #stay home and #staysafe

24th April 2021 - 25th April 2021 : "Algorithm Unlock" event by Coders Club of IEDC Sahrdaya.ALGORITHM UNLOCK" was a boot camp for competitive coding .The aim was to give an introduction into the world of coding and the vast number of opportunities that come within it.Around 150 students had registered from all the four years, from various departments

1st May 2021 : Release of Sahrdaya podcast trailer.Sahrdaya podcast trailer video making by Fr. Chako Kattuparambil, media director supported by Elwin (CMO)

7th May 2021: Release of Sahrdaya podcast teaser.Sahrdaya podcast teaser video making by Fr. Chako Kattuparambil, media director supported by Elwin (CMO)**.**

11th May 2021: Release of Sahrdaya podcast teaser 2

14th May 2021- 15th May 2021: "ARDUINO WORKSHOP" conducted by Hardware Club of IEDC Sahrdaya.Two hour session each day .1st day program - introduction to Arduino and basic programming.2nd day program – interfacing with sensors.Around 300+ registration were there for the program from various departments.

14th May 2021: Call for interview questions for Sahrdaya podcast.

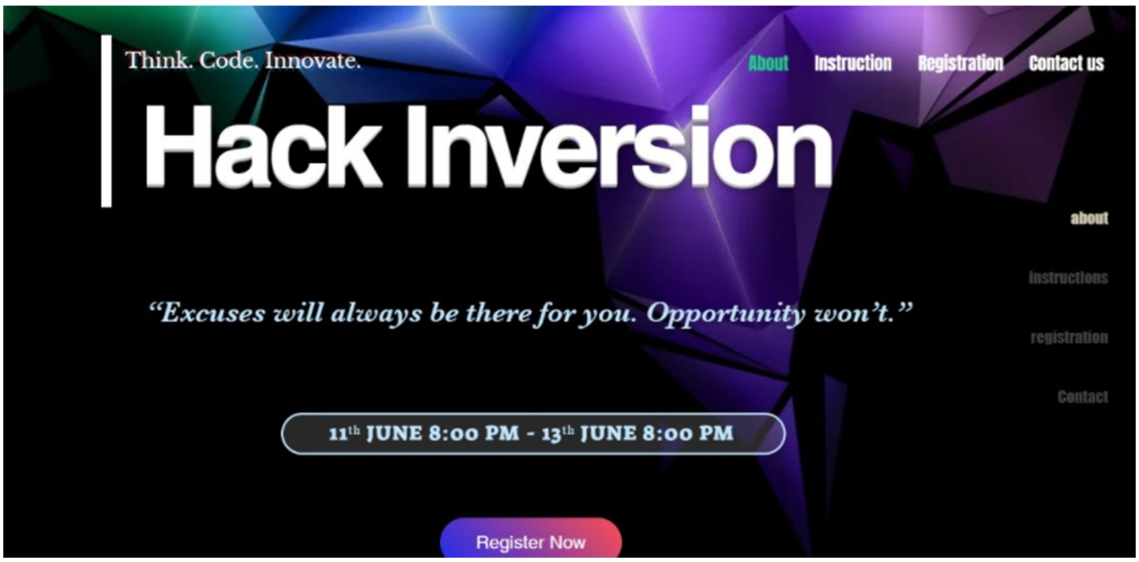
20th May 2021 :START-UP TALK given by Najeeb Bin Haneef was organized by IEDC Sahrdaya.

23rd May 2021 : Theme song of S_Beats (Sahrdaya podcast) released.

29th May 2021: Mr Jibin Jose IEDC Nodal officer gives a lecture on Innovation of Product development organized by Association of Biomedical Engineering organized by SSN college of Engineering, Kalavakkam and Institution Innovation council.

9th June to 20th June 2021 : Mr Jibin Jose IEDC Nodal officer as the part of the Second level evaluator of YIP 2020.

11th June 2021 – 13th June 2021 : "Hack Inversion" event by Coders Club of IEDC Sahrdaya.Hack inversion is a hackathon exclusive to students of sahrdaya engineering college participants can participate as a team of 3 or as an individual we had hosted a web platform where we can register, get the informations regarding the event,communicate, and to engage in the competition. it was a 2 day hackathon with 2 Rounds, where the teams have to build the required solutions in the first round. in the second round the selected.solutions are to be presented.there was around 320+ Registrations



14th June 2021: "Reminiscing the Arts day celebration" episode of S_Beats (Sahrdaya podcast) released.

15th June 2021: "Opening address of executive director" under Reminiscing the Arts day celebration " episode of S_Beats (Sahrdaya podcast) released

17th June 2021 : Sahrdaya is selected for One District One Idea scheme of Kerala Development and Innovation Strategic Council. Under this scheme, the Government aims to create an "industry cluster" under the mentorship of Sahrdaya. This is associated with financial assistance from KDISC.

20th June 2021: "Father's day special episode " of S_Beats (Sahrdaya podcast) released

20th June 2021: "International yoga day special episode " of S_Beats (Sahrdaya podcast) released

Following students are selected as Executive committee member of IEDC student start up Boot camp

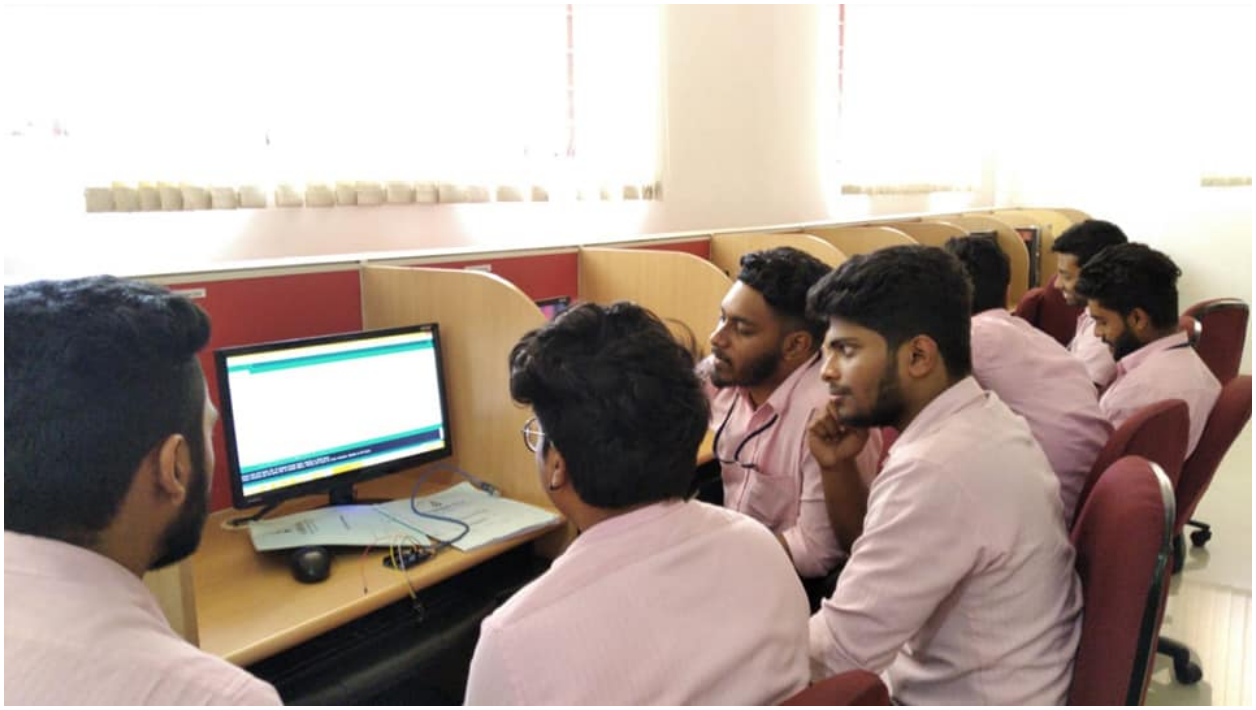
- **Chief Executive officer-Ananya Menon (S7 EEE)**
- **Chief Technical officer-Mr Adlee Xavier (S7-ECE)**
- **Chief Operating officer-Mr Roni Shaji(S7 BTE)**
- **Chief Creative officer-Mr Christo John(S7 CSE)**
- **Chief Financial officer-Ms Minna Rose(S5 CSE)**
- **Chief Social officer-Ms Anna Paulson(S5 CE)**

- **Chief Marketing officer-Mr Elwin Jose(S5 CS)**
- **Hardware Club Staff in charge-Dr Vishnu Rajan**
  Student in charge-Mr Richin
- **Coders Club Staff in charge-Ms Divya R**
  Student in charge-Mr Sayanth Manoj
- **Creative Club Staff in charge-**
  Student in charge-Mr Ashwin Ashokan
- **Future Club Staff in charge-Dr Arun Thomas**
  Student in charge-Mr Joyeal Paul

Hardware Club Activities

2020-2021

AI & Python BootCamp for Beginners



Workshop on IOT and Arduino conducted by our students in association with hardware club at rmhss aloor on 7th March 2020

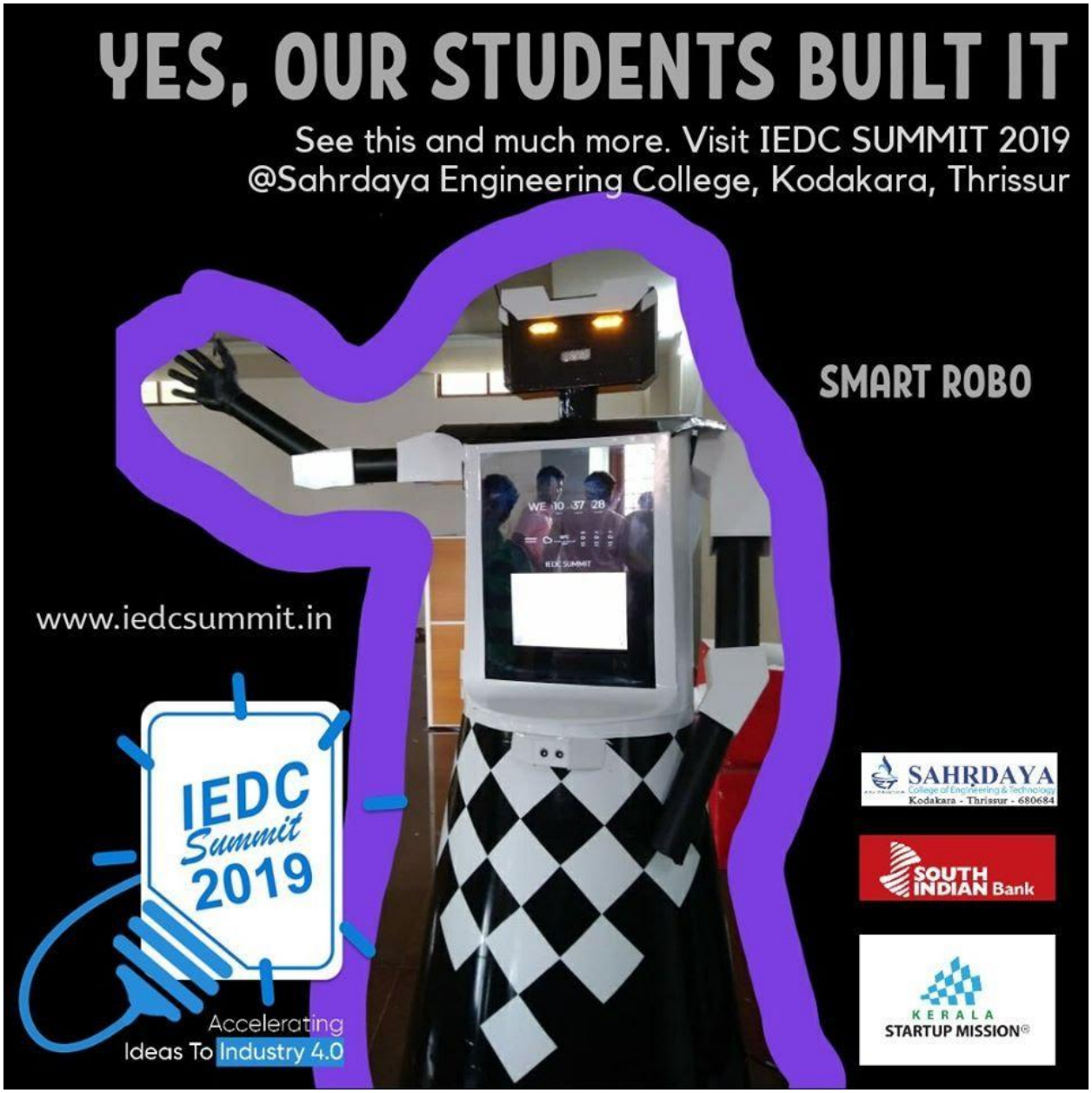
2019-2020

Workshop on IOT and Arduino conducted by our students in association with hardware club at Little Kites Matha High school

Projection Mapping, Pyroboard, Tesla, Welcoming Robot, Robo as a part of IEDC Summit

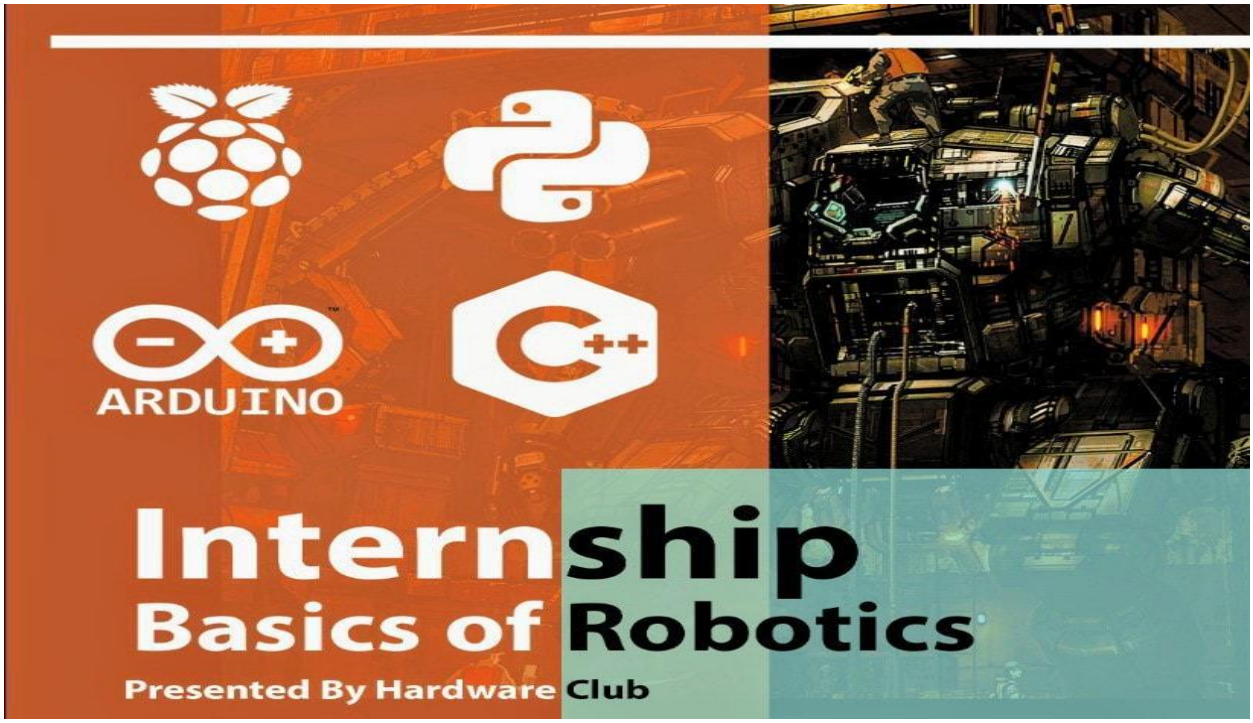
https://www.facebook.com/Sahrdaya/videos/2541408562849475/

https://www.facebook.com/irinjalakudanews/videos/512494842926017/UzpfSTEzMjAxNzg3MDE5NDEyODoyNjY2NDI0OTgzNDIwMDU4/



Workshop on arduino programming

Internship program on basics of robotics & IOT

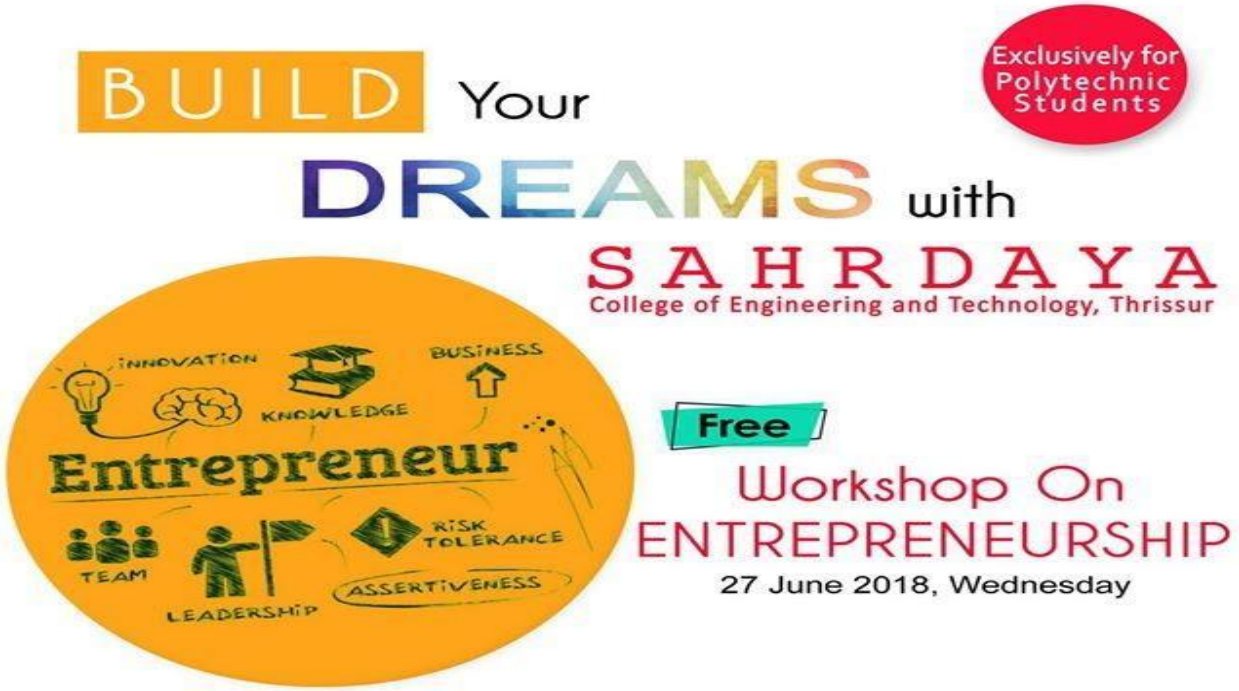


2018-19

Workshop on IOT

Workshop on basic electronics for 1st year students

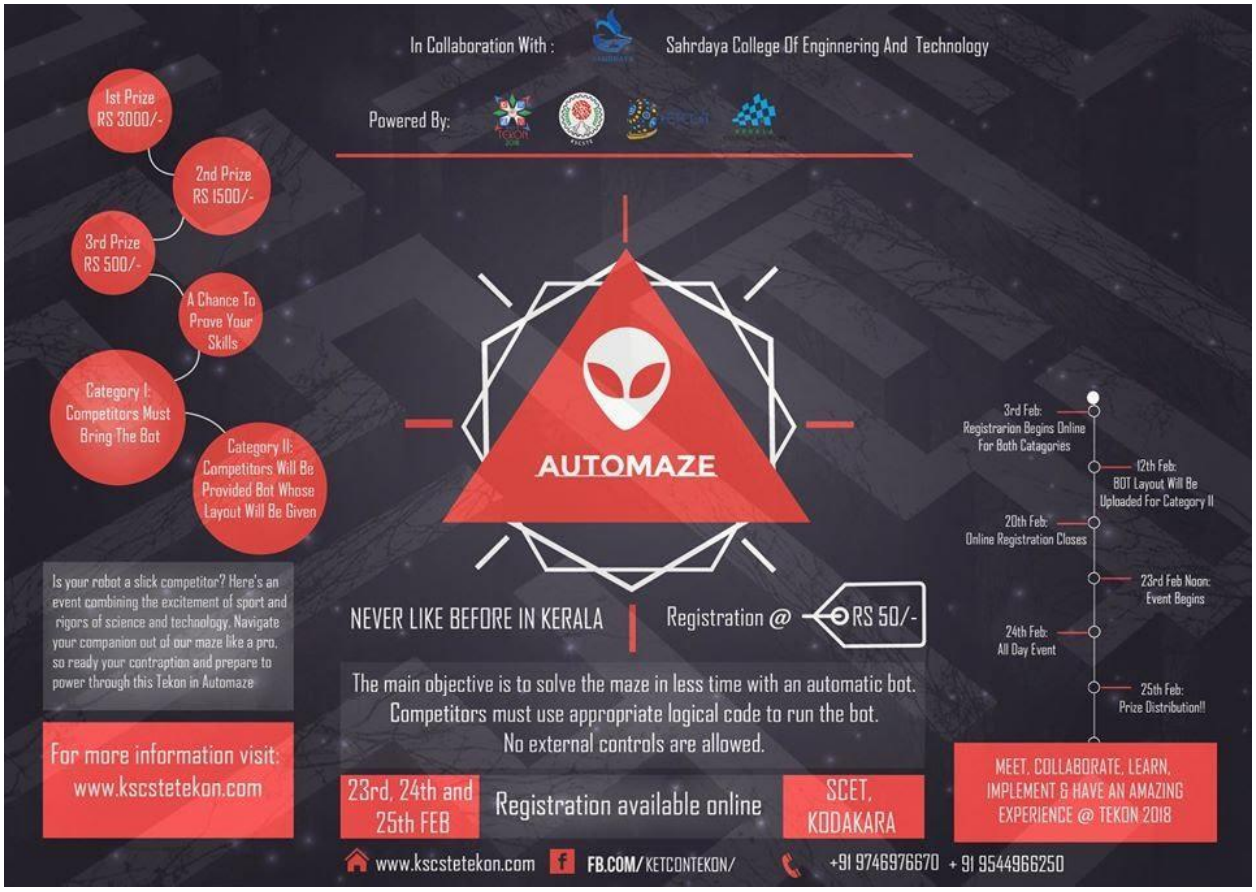
Workshop on entrepreneurship



KETCON & TEKON 2018 Hardware club stalls

Kurukshetra 2.0

Automaze



Hardware Club Activities 2017

Promo

https://www.youtube.com/watch?v=6lLJWTX72Lc

Centre for IoT and Robotics Research
Sahrdaya College of Engineering and Technology

Centre for IoT and Robotics Research (CIRR) was established in the year of 2018 with a view of promoting the Internet of Things (IoT) and Robotics related research and studies in Sahrdaya College of Engineering and Technology.

IoT facility is funded by the Kerala Startup Mission. Various development boards and components such as sensors, actuators, communication devices, power supplies etc., required to make IoT related projects are available in the lab.

Robotics lab is supported by IIT Bombay under their e-Yantra Lab Setup Initiative (eLSI). 'Firebird V' Robotic training kits and associated components are available to learn the basics of robotics.

Under the centre, students are provided with regular hands on trainings in IoT and robotics during semester breaks and holidays and are supported to do their B. Tech projects. Students can setup and test their prototypes using the facilities available in the lab and can scale up once it is tested ok. Apart from students, teachers are also trained under the centre through faculty development programmes.

Facilities

- Desktops with Intel i5 Processor- 9 Nos.
- High speed WiFi connectivity
- Fully Furnished, Air conditioned Lab, work bench with power supply, round tables, chairs and shelves for safe keeping of equipments.

List of Items available under IoT

Sl. No.	Description	Qty
1	Raspberry Pi 3	5
2	Raspberry Pi Zero Kit	3
3	Intel Galileo Gen2	2
4	Mars Board	2
5	Mojo V3 Spartan 6 FPGA	3
6	Olimex iCE40HX1K-EVB FPGA	2
7	TI Launchpad Tiva-TM4C123G	2
8	Intel Edison	2
9	Olimex A20-OLinuXino-MICRO	2
10	Arduino Mega 2560 R3	1
11	Arduino Uno Atmega328 with cable	5
12	Node MCU Kit	4
13	Arduino Pro Mini	4
14	Realtek RTL8710 Dev Board	2
15	Particle Photon-IOT Module	2
16	Seelablet	2
17	Light Sensor-BH1750FVI Module	5
18	UV Light Sensor-DFRobot ML8511 UV Module	2
19	Light Sensor-Light-Frequency TSL237	3
20	Camera-OV7670 module	2
21	Ignition Flame Switch	3
22	Distance Sensor -Ultrasonic HC-SR04+(3-5V)	5
23	Distance Sensor-Sharp GP2Y0A21YK0F	3
24	Tracking Sensor TCRT5000 IR module	3
25	Through Beam Photoelectric Sensor Module	3
26	PIR Sensor- Parallax Wide Angle	3

27	PIR Sensor HC-SR501 Module	3
28	Flight Module GY-86 10DOF MS5611 HMC5883L MPU6050 Module	2
29	Accelerometer/Magnetometer LSM303DLH	3
30	Accelerometer ADXL345	3
31	Rotation Encoder -360Deg	3
32	Gas Sensor Kit-MQ series(All versions)-Modules	2
33	Air Sensor -Dust/Quality	3
34	Current Sensor -AC712 Module Kit(5A,20A,30A each)	3
35	Reed Sensor Module	3
36	Vibration Sensor/Switch KY-002	5
37	Shock sensor 801s	5
38	Flex Sensor 4.5"	3
39	Force Sensor -1/2"	3
40	Weight Sensor Load Cell(0-50Kg)	1
41	Touch Sensor-I2C MPR 1214 Channel	3
42	Pressure Sensor MS5611 Module	2
43	ADS1292R ECG/Respiration Shield Kit for Arduino	2
44	AFE4400 Pulse Oximeter Shield Kit for Arduino	2
45	Fingerprint Module - pcDuino	3
46	PH Sensor(electrode)	3
47	Microphone -KY-037	3
48	Microphone-Grove Sound Sensor	3
49	RF-NRF24L01 RF Module	6
50	RF-NRF24L01 RF PA+LNA	4
51	Zigbee-Xbee 6.3 mW Series 2 (pair)	2
52	GSM/GPS SIM908 Modem with SMA Antenna and variable voltage operation	1
53	GPRS/GSM A6 AiThinkers Dev Board	2
54	GPS-Arduino Shield with Antenna	1
55	WiFI-ESP8266 ESP 12E with Breakout Adapter	2
56	WiFi -TP Link TL-WN722N with 4dBi Antenna	3
57	Bluetooth Module HC 06	4
58	Bluetooth LE 4.0 -CC2541 Module	3
59	ELM327 Bluetooth OBD2 V1.5	2
60	XD 43 USB FTDI Cable	5

61	RFID/NFC PN532 SHIELD IC Card	1
62	Ethernet Module ENC28J60	3
63	Ethernet -Arduino Shield W5100A with SD card slot	3
64	Level Converters -Bidirectional 3.3-5V	5
65	7-inch LCD Touch screen capacitive -For Raspberry Pi	2
66	OLED -0.96 inch Blue	2
67	clock -DS3231 AT24C32 with CR2032 cell	4
68	Xiaomi Mi WiFi Router	1
69	2 Channel 30V 3A Programmable Bench Power Supply	2
70	12V 400mA Isolated Power Module-SMPS	3
71	5V 2A /10W Power Adapter -Barrel Jack	3
72	12V 2A/24W Power Adapter	3
73	MT3608 2A DC-DC BOOST Module	3
74	LM2596 DC-DC STEP DOWN Module	3
75	DC-DC boost module LM2577 3A digital with display	3
76	TLP 250 -OPTOCOUPLER	10
77	10A 250VAC /3-32V DC Solid State Relay	3
78	230V 2A /3.3V Relay	5
79	Micro SD Card -16 GB Class 10 or above	10
80	Jumper Wires Male-Male	200
81	Jumper Wires Male-Female	300
82	Jumper Wires Female-Female	150
83	Raspberry Pi Original Case from Pi Foundation	5
84	HDMI to VGA converter	9
85	Micro HDMI Male-HDMI Female Adapter	5
86	Mini HDMI Male-HDMI Female Adapter	5
87	Plastic Box Grid	4
89	NEX-N SMPS Adapter	3
90	Bread Board	10

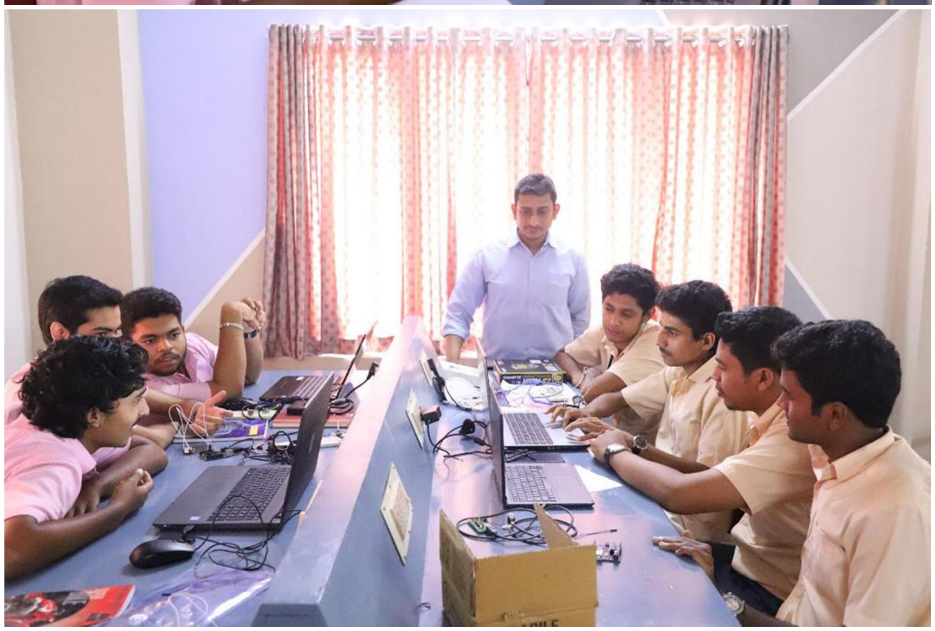
List of Items available under Robotics

Sl. No.	Description	Qty
1	Firebird V Robotic platform with USB cable	7
2	Spark V Robot	5
3	Fire Bird V P89V51RD2 adapter card	3
4	Fire Bird V LPC2148 adapter card	5
5	Servo Motor-NRS 995 (Metal geared)	10
6	Zigbee Modules 100m range	10
7	Zigbee Modules Adapter	5
8	Servo Motor Based Gripper kit for the Fire Bird V robot	2
9	Sharp GP2Y0A21YK0F infrared range sensor (10cm to 80cm)	10

Photographs of Laboratory facility

ACTIVITY REPORT

- **Hands on Training on IoT "Fun with Arduino" to students of ECE and EEE Dept.**
  Date: 25/6/2018-26/6/2018
  Venue: Centre for IoT and Robotics Research
  No. of Participants: 23
  Resource Persons: Mr. Subhod Raj (Asst. Prof. ECE), Mr. Saran K B (Asst. Prof. ECE), Mr. Harikrishnan (Asst. Prof. ECE) and Mr. Don (Asst. Prof. ECE)



- **Out-reach Program: One day workshop on "Introduction to Robotics" to Higher secondary students of Soccorso Convent Girls School, Mala, Thrissur.**
  Date: 26/10/2018
  Venue: Soccorso Convent Girls School, Mala, Thrissur
  No. of Participants: 92
  Resource Persons: Dr. Arun Thomas (Assoc. Prof. CSE), Mr. Saran K B (Asst. Prof. ECE)

- **Out-reach Program: One day workshop on " IoT and Robotics" to Higher secondary students of Vocational higher secondary School, Kaloor, Ernakulam.**
  Date: 29/10/2018
  Venue: Soccorso Convent Girls School, Mala, Thrissur
  No. of Participants: 40
  Resource Persons: Mr. Kiran Philip (Ass. Prof. BME), Mr. Saran K B (Asst. Prof. ECE)

- **Out-reach Program: Hands on training on "Rasbery pi and Firebird V robot" to selected Higher secondary students of Wayanad district under the KITE Program, Wayanad.**
  Date: 12/1/2019
  Venue: Government Higher Secondary School, Panamaram, wayanad
  No. of Participants: 56
  Resource Persons: Mr. Saran K B (Asst. Prof. ECE), Mr. Subhod Raj (Asst. Prof. ECE), Mr. Emmanuel Tom (Asst. Prof. ECE), Dr. Satheesh Kumar (Asso. Prof. CSE)

- **Out-reach Program: One day workshop on "Introduction to Robotics" to Higher secondary students of Technical higher secondary School, Thrissur.**
  Date: 20/1/2019
  Venue: Technical higher secondary School, Thrissur
  No. of Participants: 24
  Resource Persons: Dr. Arun Thomas (Assoc. Prof. CSE), Mr. Saran K B (Asst. Prof. ECE)

- **Hands on training on Firebird V robot "Learning through Doing" to 6th Semester Students of EC Dept. as part of the elective course "Robotics".**
  Date: 3/4/2019 to 10/4/2019
  Venue: Dept. of ECE, SCET
  No. of Participants: 28
  Resource Persons: Mr. Saran K B (Asst. Prof. ECE)

- **Outreach program: Hands on training on Firebird V robot to Higher secondary school students of Irinjalakuda locality.**
  Date: 28/12/2019
  Venue: Lab 6, Dept. of ECE, SCET
  No. of Participants: 16
  Resource Persons: Mr. Richard (S7 ECE), Mr. Grigary (S5 ECE), Mr. Christo (S5 ECE)

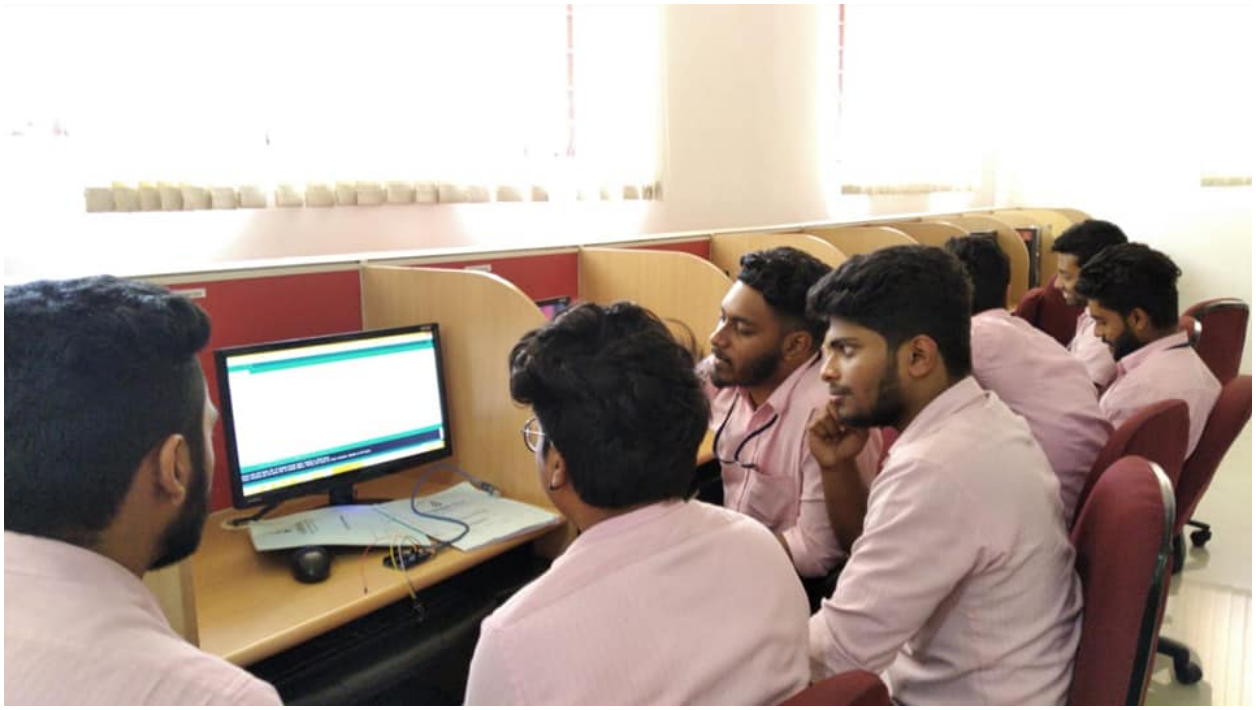

EC LAB III

Center for IoT and Robotics Research
Room No-318, Knowledge Center
Sahrdaya College of Engineering and Technology
Kodakara, Thrissur, Kerala

Hardware Club Activities

2020-2021

AI & Python BootCamp for Beginners



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Projection Mapping, Pyroboard, Tesla, Welcoming Robot, Robo as a part of IEDC Summit

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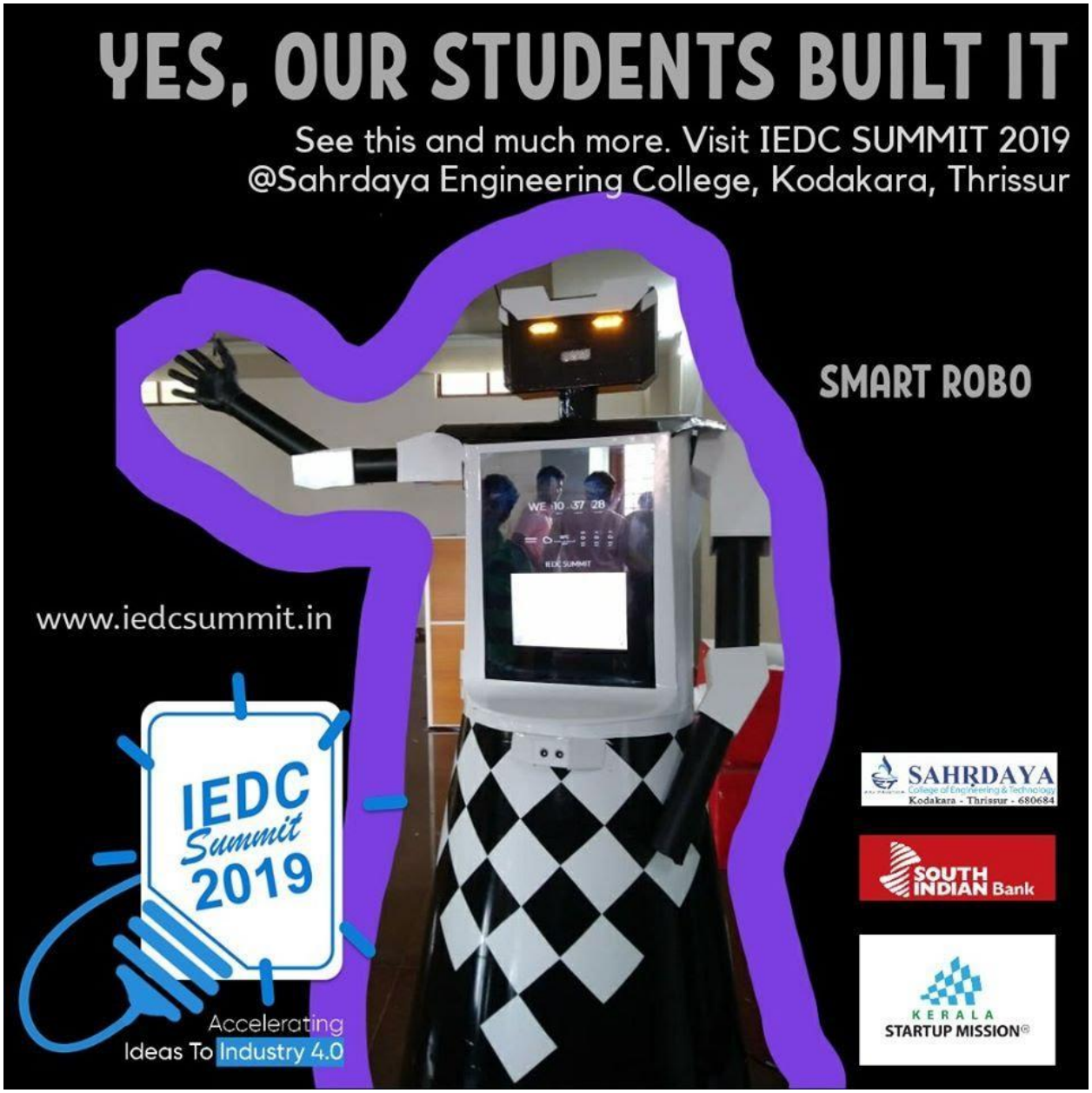

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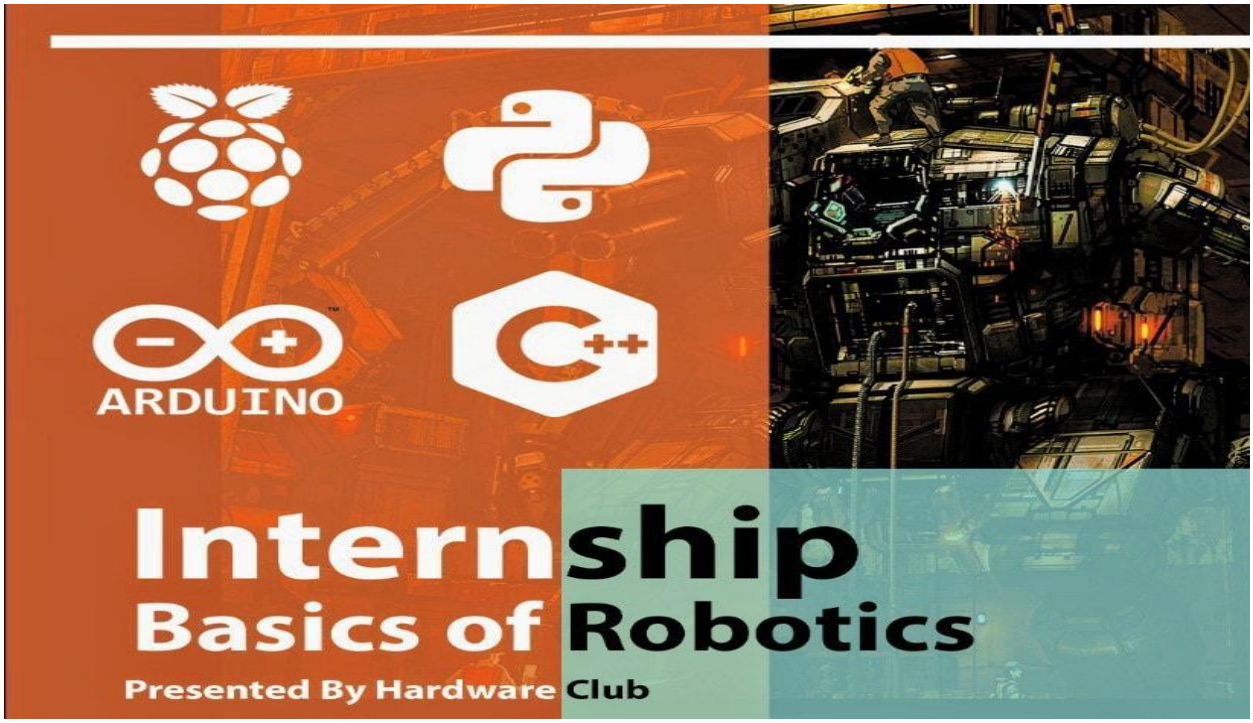

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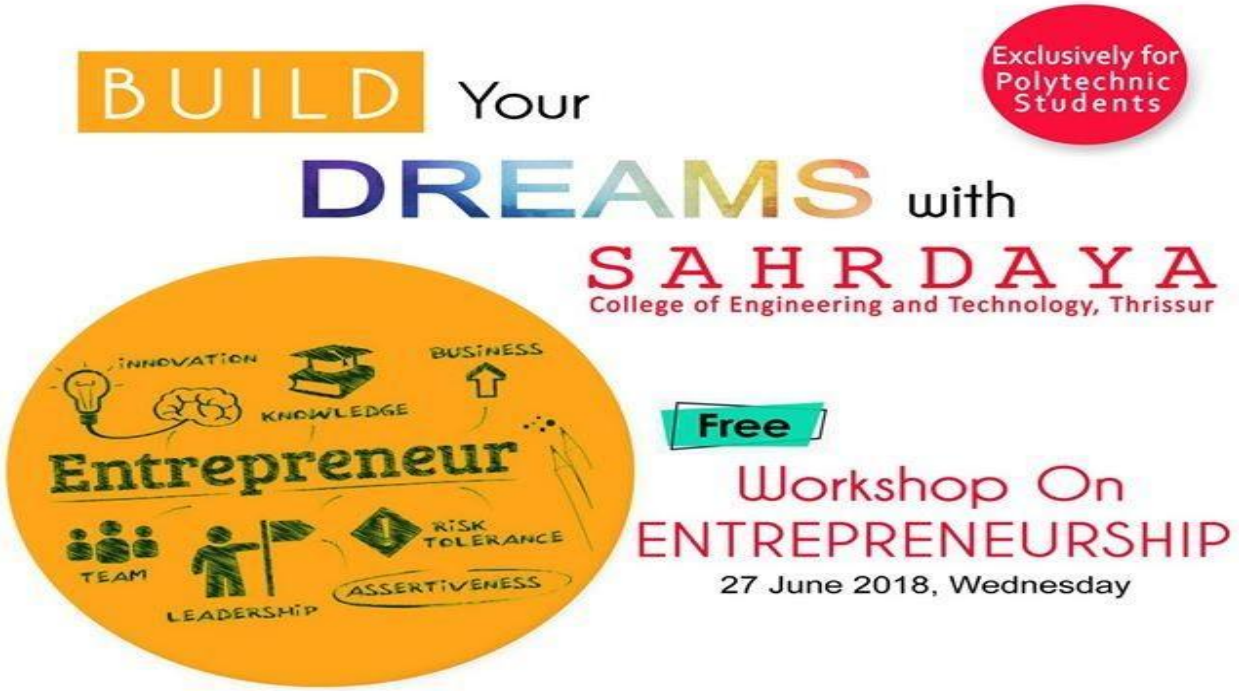

KETCON & TEKON 2018 Hardware club stalls

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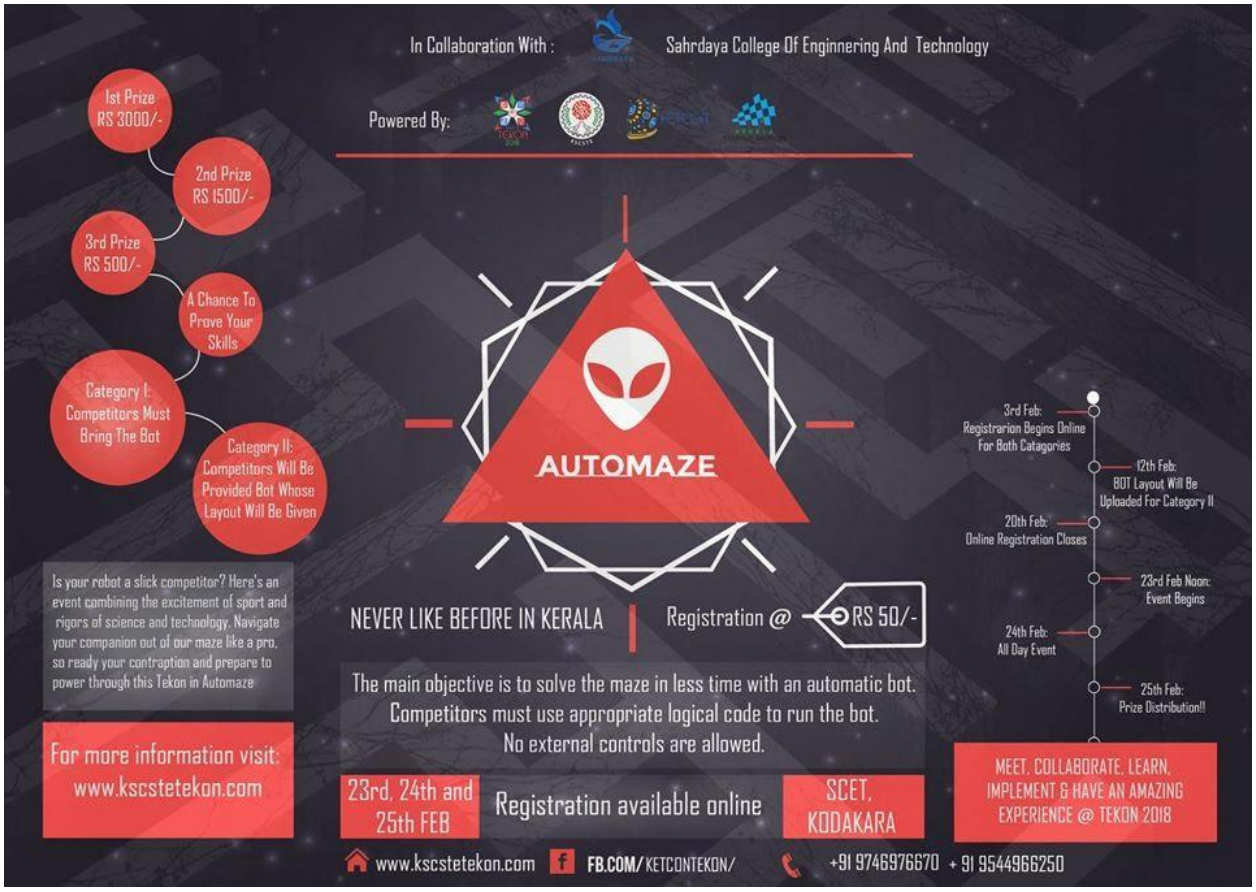

Hardware Club Activities 2017

Promo

https://www.youtube.com/watch?v=6lLJWTX72Lc

सूचना
का अधिकार

TELEGRAM : SCINDRECH
दूरभाष/TEL : 26962819, 26567373
(EPBAX) : 26565694, 26562133
: 26565687, 26562144
: 26562134, 26562122
फैक्स/FAX : 26960629, 26529745
Website : http:/www.dsir.gov.in

सत्यमेव जयते

भारत सरकार
विज्ञान और प्रौद्योगिकी मंत्रालय
वैज्ञानिक और औद्योगिक अनुसंधान विभाग
टेक्नोलॉजी भवन, नया महरौली मार्ग,
नई दिल्ली – 110 016
GOVERNMENT OF INDIA
MINISTRY OF SCIENCE AND TECHNOLOGY
Department of Scientific and Industrial Research
Technology Bhavan, New Mehrauli Road,
New Delhi - 110 016

F.No. 11/698/2016-TU-V

Date: 23rd March 2022

The Principal
Sahrdaya College of Engineering and Technology
of Irinjalakuda Diocesan Educational Trust,
P.B.No. 17, Kodakara,
Thrissur – 680684, Kerala

Subject: **Renewal of Recognition of Scientific and Industrial Research Organisations (SIROs).**

Dear Sir,

This has reference to your application for renewal of recognition of **Sahrdaya College of Engineering and Technology of Irinjalakuda Diocesan Educational Trust, Kodakara, Thrissur, Kerala** as a Scientific and Industrial Research Organisation (SIRO) by the Department of Scientific and Industrial Research under the Scheme on Recognition of Scientific and Industrial Research Organisations (SIROs), 1988.

2. This is to inform you that it has been decided to accord renewal of recognition to **Sahrdaya College of Engineering and Technology of Irinjalakuda Diocesan Educational Trust, Kodakara, Thrissur, Kerala from 01.04.2022 to 31.03.2025.** The recognition is subject to terms and conditions mentioned overleaf.

3. Receipt of this letter may kindly be acknowledged.

Yours faithfully,

(Dr. P.K. Dutta)
Scientist - 'F'

TERMS AND CONDITONS FOR RECOGNITION OF SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANISATIONS (SIROs)

1. The organizations should acknowledge receipt of the recognition letter by stating that they will abide by the terms and conditions of recognition.

2. The recognition will entitle the SIRO to receive such administrative support from the DSIR, Ministry of Science & Technology as may be required on issue to promote or encourage scientific research activities.

3. SIROs recognized by DSIR are also deemed to be registered. A separate certificate of registration** is issued along with the recognition letter. The recognition would be valid for the period specified in the recognition letter and application for renewal of recognition shall be submitted in the prescribed proforma at least 3 months before the expiry of the valid recognition. Failure to submit application in time may lead to automatic lapsing of the recognition& registration.
   ***However, the certificate of registration is not issued to SIROs engaged in activities falling within the definition of 'hospital' as per notification No. 51/96-Cus. Dt. 23.07.1996 issued by the Department of Revenue.*

4. The recognition of DSIR does not amount to approval u/s 35(1)(ii)/(iii) of Income Tax Act, 1961.

5. The registration will entitle the SIROs to avail of custom duty exemption on purchase of equipment, instruments, spares thereof, consumables, etc. used for research and development subject to relevant Government policies in force from time to time. Custom duty exemption has to be separately dealt with the customs authorities. The SIROs should abide by the terms & conditions of the customs notifications issued/amended from time to time.

6. Separate books of accounts shall be maintained by the SIRO for research & development activities and the R&D expenditure, both capital and recurring should be reflected the Annual Report and Statement of Accounts of the Organization in separate schedules.

7. Disposal/sale of equipment and products/prototypes/intermediates, if any, emanating from the R&D/pilot plant, should be intimated to DSIR immediately. The realization, if any, from above or any services rendered etc. shall be shown in the R&D accounts of the organization as income of the SIRO in the audited accounts as well as annual report and should be used or reinvested for research activities only. In case of disposal/sale of R&D equipment, clearance from custom authorities will also be required in view of the applicable notifications under which the equipment was imported/purchased in India.

8. Accelerated depreciation allowance as per Rule 5(2) of Income Tax Rules 1962 will be available on investments on plant & machinery by any industrial unit which has made these investments for the purpose of commercialization of technology/know-how acquired from a SIRO recognition by DSIR.

9. Brief summary of the achievements of the organization shall be submitted to the DSIR every year. This should include details related to papers published, patents obtained and process developed, new products introduced, awards & prizes received, copy of Annual Report and Statement of Accounts of the organization etc. List of equipment, instruments, parts and consumables imported/purchased using the duty exemption should also be submitted to DSIR along with the Annual Report.

10. Any violation of the terms & conditions mentioned-above and / or provisions of taxation in force will make the organization liable to de-recognition.

11. The organization will also conform to such other conditions for recognition stipulated in the Guidelines or as may be specifically provided in the recognition letter.

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2020-2021

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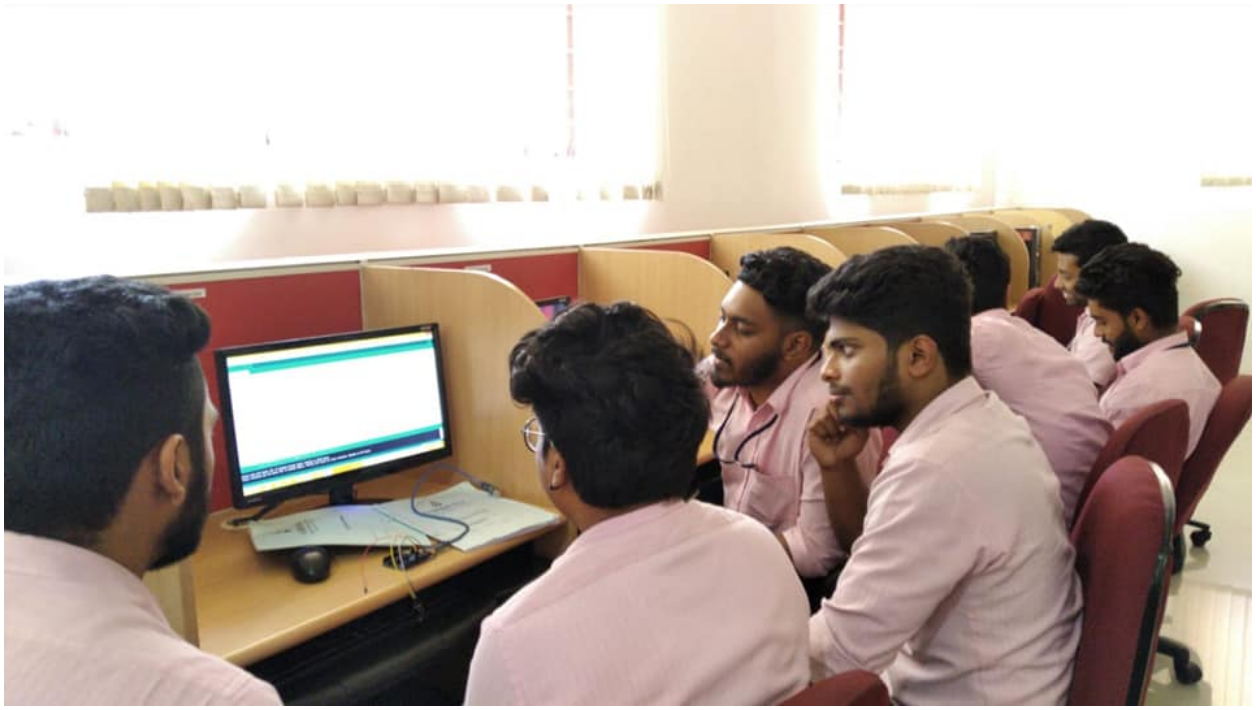

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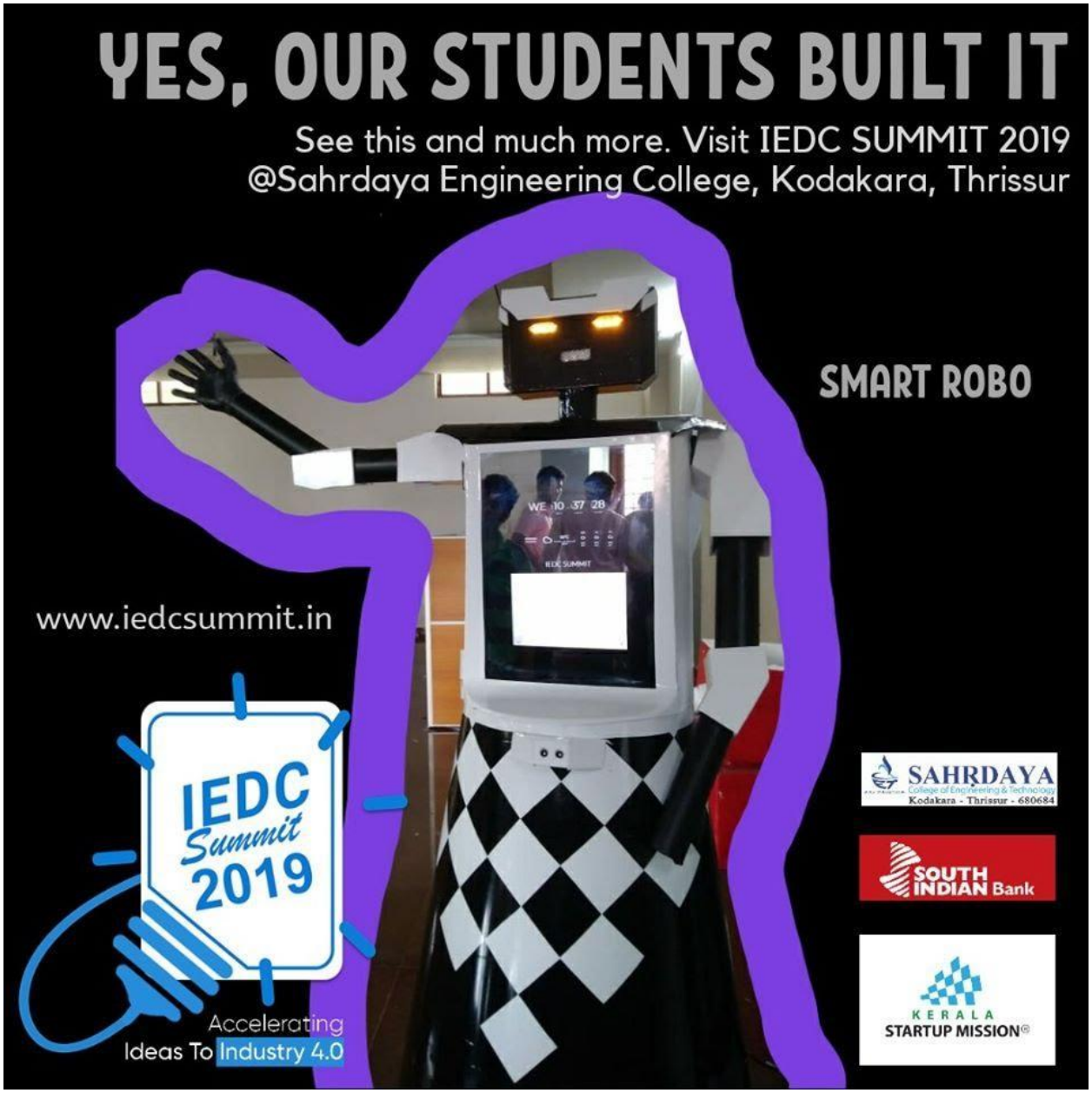

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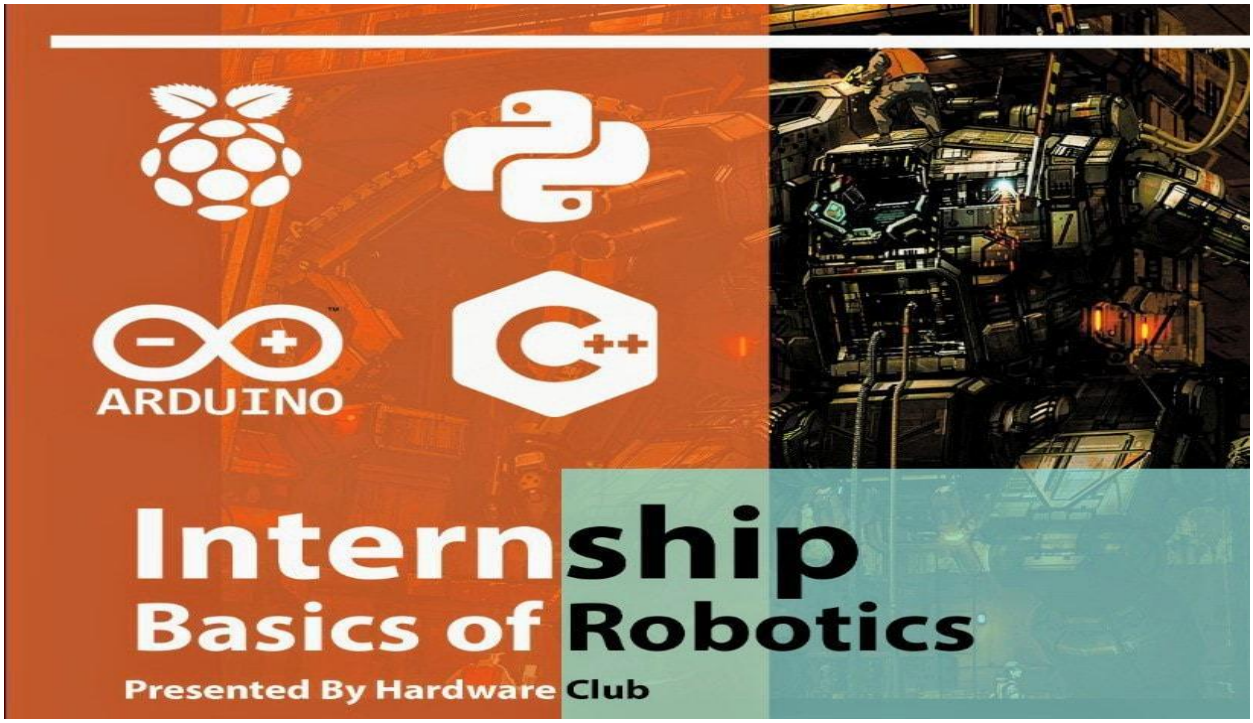

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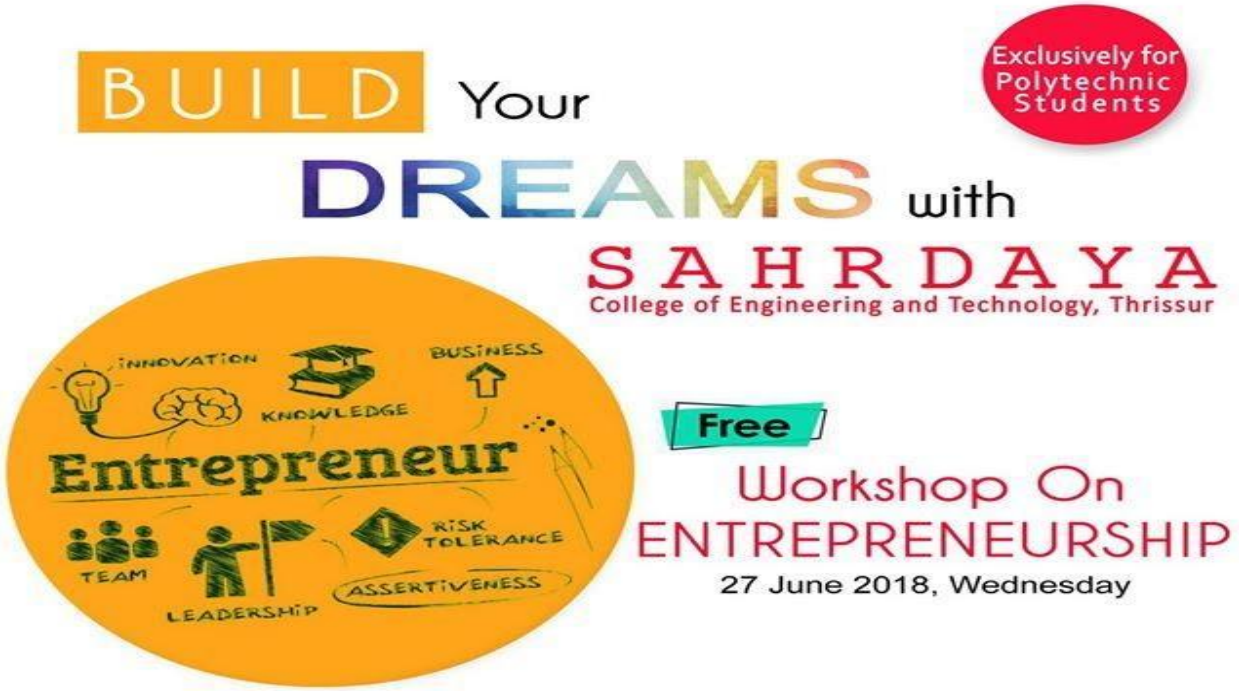

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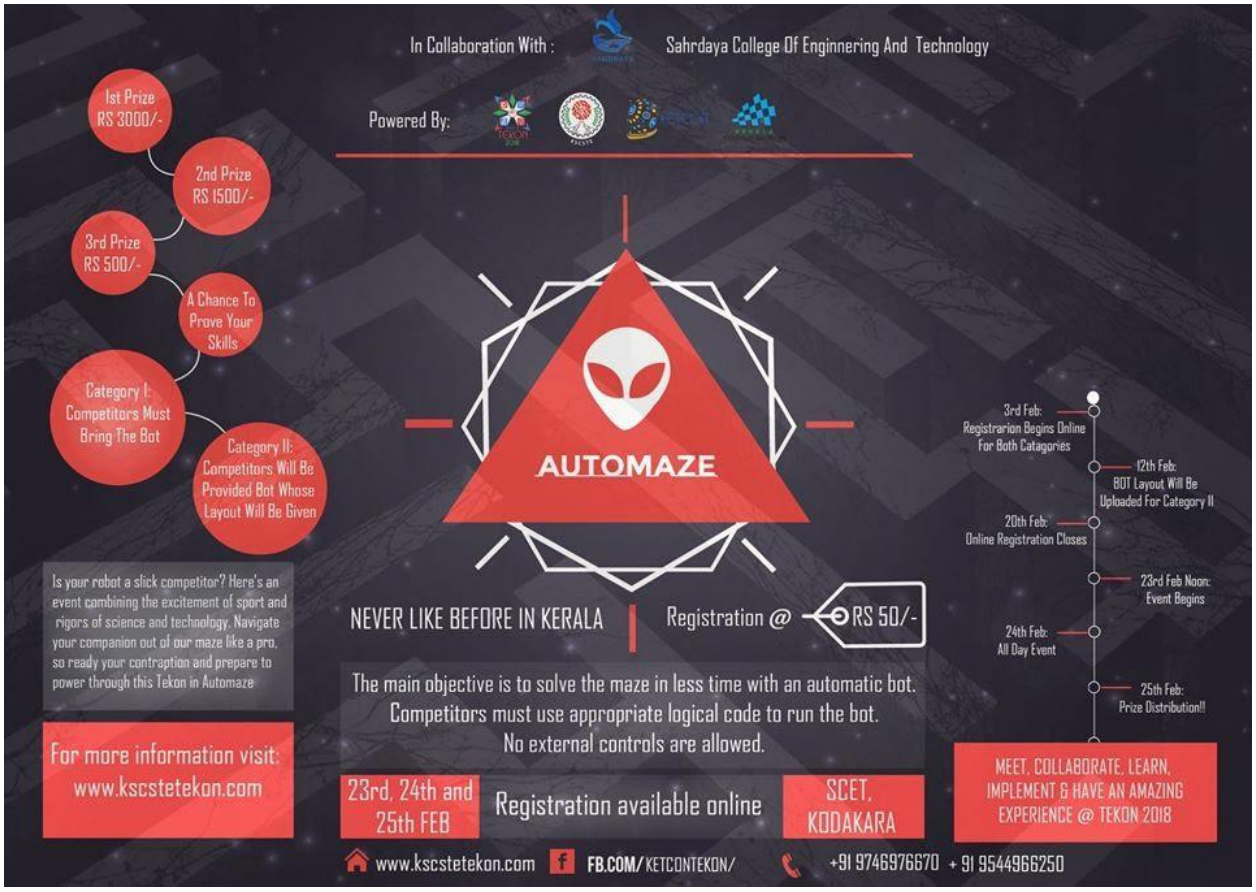

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RESEARCH AND DEVELOPMENT COUNCIL (RDC) –YEARLY REPORT

Report of RDC activities during 2020-2021

1. **Programs conducted**

(i) Session on Research Methodology

A session on – 'Research Methodology' was held on 25th March 2021 from 1.30 – 3.30 PM for the faculty members by Dr. Elizabeth Elias, Director, SCET.

(ii) Talk on Technical writing

Two sessions on Technical writing was held on April 17th, 2021 for the faculty members. The first session on 'Technical Writing in Research' was handled by Dr. Manoj Komath, Scientist, SCTIMST from 11.00 – 12.30 PM. The second session on 'Research Communication and Publication Ethics was handled by Dr. Anil kumar, Scientist, SCTIMST from 1.30-3.00 PM

(iii) Technical writing workshop for S6 students

Technical writing workshop was conducted for the S6 students as the per the schedule below.

Department	Date	Time	Incharge
BM	30.04.2021	01:30 PM - 03:30PM	Mr Kiran Philip Isaac, Ms Arathy
BT	29/04/2021	01:30 PM - 03:30PM	Dr Praveena, Ms. Smeera
EC	30.4.2021	01:30 PM - 03:30PM	Ms Silpa and Dr. Caren
CS	06/05/2021	01:30-03:30PM	Dr Satheesh, Dr Arun Thomas
CE	26/04/2021	1:30-3:30 PM	Mr. Ciby Jacob, Ms. Haritha
EEE	24/04/2021	1:30-3.30 PM	Dr Vijikala

2. RESEARCH

PhD awarded

Dr. P Praveena (BTE), Dr Jestin Joseph (Library) and Dr K Krishnadas (CSE) was awarded their doctoral degree in 2021.

Faculty Research Seed Grant 2021

Proposals were invited under the Faculty Research Seed Grant 2019 from the faculty of all departments, The following projects were selected for seed money from the Institute R&D fund.

SL. NO	TITLE OF THE RESEARCH PROPOSAL	NAME OF THE INVESTIGATORS	DEPT	Amount Sanctioned Rs.

1	Implementation of an optimized endto end deep learning algorithm for Parkinson's disease detection from MRI images	Ms. Ambily Francis& Dr. Caren Babu	ECE	80,000
2	Design and Development of a dual source e-rickshaw for Indian roads	Mr.Shimin V V & Dr. Vijikala V	EEE	80,000
3	Design and Development of a Module level DC optimizer with partial power topology	Mr. Sebin davis K & Ms. Ashna Mohan	EEE	80,000
4	An Efficient Architecture design for accelerating 3D CNNs on FPGAs for real-time applications	Ms. Vidyamol K Ms Jisha Jacob Ms Chinchu Jose	ECE	1,50,000
5	FPGA Implementation of Deep Learning Networks for Automated Cancer detection	Ms. Binet Rose Devassy & Mr.Santhosh Kumar	ECE	1,50,000
6	Performance enhancement of IOT application using FOG computing technique	Ms.Anju Babu, Mr Saran K B & Mr Deepak Joseph	ECE	47,500
7	Effect of GGBFS and copper slag on durability and flexural behaviour of self-compacting concrete	Mr. Akhil S Nair & Ms Aiswarya M S	CE	82,500
8	Development of a high performance concrete prepared with partial replacement with cupola furnace slag from molten scrap metal and copper slag with focus on strength and durability	Ms.Remya P M & Mr. Ciby Jacob Cherian	CE	88,300
9	Predicting malnutrition by measuring the quality of water through Deep learning	Mr.Scaria Alex,Uma E S and Ms.Princy T D	CS	26,000

3. PUBLICATIONS

Technical Transactions 2019

Compilation of Project reports of 2019 pass out batch and faculty publications during the year 2019-20 was published by the individual departments. It was released on March 4th, 2021 by Rev Fr George Pareman, Executive Director and received by the HOD's of each department.

Patents Published

Dr.M.Rajeswari	Portable low cost smart spirometer using Embedded & IOT	Indian Patent	2020	202041029484	Filed and Published
DR. R. SATHEESH KUMAR	A Smart Methodology to Track the Spread of Pandemic and Sanitizing at Regular Intervals	Australian Patent	2021	2020103763	Granted(27 Jan 2021)

Journal Publications

1. ***F Raphel, SM Sameer,*** A Speed Adaptive Joint Subcarrier and Power Allocation Technique for Downlink OFDMA Video Transmission Over Doubly Selective Channels, IEEE Transactions on Vehicular Technology, vol. 69, no. 2, pp. 1879-1887, Feb. 2020
2. L. Ittiachen and Sumi Maria Babu, Evaluation of Antibacterial activity of Biosynthesized Silver nanoparticles coated Low Density Polyethylene films, Materials Today: Proceedings, https://doi.org/10.1016/j.matpr.2021.06.131
3. Divya R & Dr. J. Dinesh Peter, "Smart healthcare system-a brain-like computing approach for analyzing the performance of detectron2 and PoseNet models for anomalous action detection in aged people with movement impairments", Complex & Intelligent Systems, ISSN 2199-4536, DOI 10.1007/s40747-021-00319-8
4. Scaria Alex & Dr. T Dhiliphan Rajkumar , Adaptive Spider Bird Swarm Algorithm- Based Deep Recurrent Neural Network for Malicious JavaScript Detection Using Box-Cox Transformation, Published in International Journal of Open Source Software and Processes
5. Dhanya Gangadharan, Anu Jose, K. Madhavan Nampoothiri, Recapitulation of stability diversity of microbial α-amylases; Amylase (2020) 4: 11–23; https://doi.org/10.1515/amylase-2020-0002.
6. Kumar, R.S., Saviour Devaraj, A.F., Rajeswari, M. *et al.* Exploration of sentiment analysis and legitimate artistry for opinion mining. *Multimed Tools Appl* (2021). https://doi.org/10.1007/s11042-020-10480-w
7. Yuvaraj Velusamy, Rajeswari Manickam, Sivamani Chinnaswamy, Golden Julie Eanoch, Harold Robinson Yesudhas, Raghvendra Kumar, Hoang Viet Long. Adaptive beam formation and channel allocation using substance near multicast protocol and CS-iEHO", Soft Computing, Springer Publications, SCI Indexed, ISSN 1432-7643, 05th Jan 2021.
8. C. Sivamani, M. Rajeswari, E. G. Julie, Y. H. Robinson, V. Shanmuganathan *et al.*, "Tyre inspection through multi-state convolutional neural networks," *Intelligent Automation & Soft Computing*, vol. 27, no.1, pp. 1–13, 2021.
9. Manickam, R., Kumar Rajan, S., Subramanian, C. *et al.* Person identification with aerial imaginary using SegNet based semantic segmentation. *Earth Sci Inform* **13,** 1293–1304 (2020). https://doi.org/10.1007/s12145-020-00516-y

10. K. Vijayan, G. Ramprabu, S. Selvakumara Samy, M. Rajeswari, Cascading Model in Underwater Wireless Sensors using Routing Policy for State Transitions, Microprocessors and Microsystems, Volume 79, 2020, 103298, ISSN 0141-9331, https://doi.org/10.1016/j.micpro.2020.103298.
11. Ambily Francis, Immanuel Alex Pandian, Early detection of Alzheimer's disease using local binary pattern and convolutional neural network. Multimedia Tools and Applications. 2021 Jul 2:1-16.

Links to Innovation ecosystem

1. Sahrdaya TBI -https://sahrdaya.ac.in/stbi/

2.IEDC - https://iedcsahrdaya.co.in/

3. Red Hat - https://sahrdaya.ac.in/cse/cse-redhat/

4. ASAP - https://sahrdaya.ac.in/cse/cse-asap/

5. Research Centres - https://sahrdaya.ac.in/rdc/

6. Placement & Training Cell - https://sahrdaya.ac.in/tap/

7. Agappe Innovation Hub- https://sahrdaya.ac.in/bme-agappe/