

The **Science and Technology council** organized a plethora of events through its four main societies of **Nakshatra** (The astronomy society), **WebnD** (The web and development society), **Neuromancers** (The programming society) and **RISC** (The Robotics society).

It successfully opened the society dedicated to 'Finance and Economics' under its umbrella during its tenure in 2021-2022, which was an initiative for the last 3 years under the name of **FEBS** (formerly Fincobizz). The council also organized several webinars related to **research opportunities, TOEFL, MBA, CAT** and other competitive exams. Also, it has signed several MOUs to host relevant workshops that can be helpful for students(e.g with **CODING NINJAS, TECH ANALOGY, NIT ROURKELA**) etc. The council was also the initiator of **Inter IIT Tech Symphony** under which currently 15 IITS are members which already hosted some 6-7 events. It also improved its rank in **TECH MEET from 21 last year to 14 this year**.

Given below are the society wise year long contributions.



## **NAKSHATRA – The Astronomy Society**

### ***AstroChamp***

On International Astronomy Day (15<sup>th</sup> May 2021), Nakshatra commenced AstroChamp for the first time. It is the annual Astro meet organized by Nakshatra starting from year 2021-2022, consisting of events ranging from fascinating guest talks and webinars to engaging competitions; organized with collaboration with various societies, along with enthusiastic participation from students not only from our college but from other institutions also like IIT Mandi, IIT BHU, KIIT, MIT Manipal, VIT Vellore, LNMIIT etc.

### ***Competitions with collaborations***

#### **Conducted from 21st May to 6th June 2021**

- Astrophotography in collaboration with Clix
- English Essay Writing in collaboration with Panacea
- Hindi Essay Writing in collaboration with Abhivyakti
- AstroQuiz in collaboration with Quiz Club
- Coding Competition in collaboration with Neuromancers
- Case Study
- Painting Competition
- Digital Art Competition

### ***Guest Talks and Webinars***

- **Guest Talk on 'Black Holes'**

Conducted on 21st May

Prof. Manojendu Choudhury was invited for a Guest Talk on 'Black Holes'. Sir spoke about some theories about Black Holes and their significance. He also talked about the recent discoveries and research on Black Holes.

- **Guest talk on 'Observational Astronomy and Cosmic Mythologies'**

Conducted on 28th May

Mr. Tejas Shah was invited for a Guest Talk on 'Observational Astronomy and Cosmic Mythologies'. Sir spoke on how to see various stars, galaxies, nebulae, or constellations in the night sky. He also discussed the equipment needed and the suitable environmental condition.

- **Webinar on 'Introduction to Rockets'**

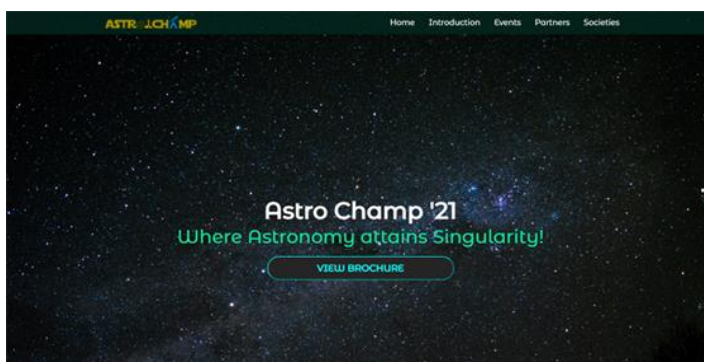
Conducted on 30<sup>th</sup> May

Mr. Divyanshu Poddar was invited for a Webinar on 'Introduction to Rockets'. He is the CEO and founder of Rocketeers, India's first solid fuel Rocket kits manufacturer. Sir spoke about the present-day technologies used in rockets and satellites. He also explained the physics behind rockets including a brief explanation of Aerodynamics and some fundamental equations used in Rocket Science.

## **Workshop**

- **Machine Learning Workshop**

A workshop in collaboration with Techvanto Academy about Machine learning and its applications was conducted.



## **Telescope Handling Session**

A demonstration session on how to assemble the telescopes and use them was conducted among the society members followed by a presentation on Night Sky Observation. And the session was ended by a simple quiz among the members on Kahoot.

## ***Stargazing Session***

### **For Society Members**

- **Conducted on 13<sup>th</sup> Dec**
- A Star-Gazing Session was held in the evening for the society members. They got a chance to manage the telescopes and binoculars and point to different objects in the night sky. The session was very interactive.

### **For 2<sup>nd</sup> Years**

- **Conducted on 23<sup>rd</sup> Dec**
- A Star-Gazing Session for the second-year students was held. More than ninety students from second year showed up to take a look at Jupiter and its four moons and Saturn and its rings through the telescopes.

### **For Masters and PhD**

- **Conducted on 24<sup>th</sup> Dec**
- A Star-Gazing Session for the Masters & PhD students was held. More than two hundred students showed up to take a look at Jupiter and its four moons and Saturn and its rings through the telescopes.

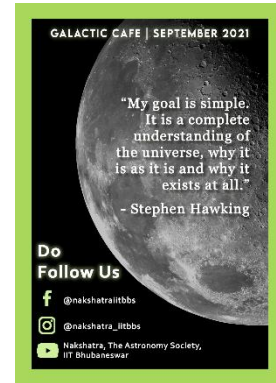
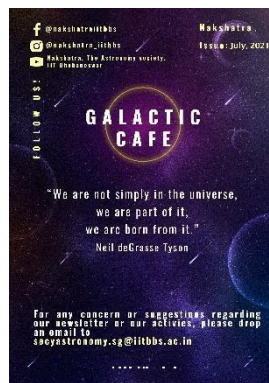
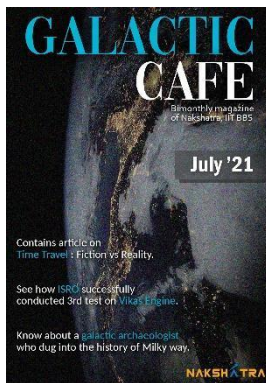


## ***General Championship AstroThink***

A Case Study Competition with an exciting and intriguing problem statement based on tinkering with a new solution or coming up with a new innovative way for discoveries in Astronomy.

## ***Galactic Café***

Nakshatra released its editions of the magazine, Galactic Café, for May 2021, July 2021, September 2021, January 2022 filled with informative articles, up-to-date news, interesting quizzes and crosswords etc.



## Social Media

Various informative and interesting posters and videos were released and posted on Instagram, Facebook and YouTube handles of Nakshatra.

## WEBnD - WEB and Design Society



## WORKSHOPS AND COMPETITIONS

### Skyrocket your Canvas

- Conducted on 31<sup>st</sup> May 2021
- The society had organised a graphic design competition in collaboration with Nakshatra as a part of Astro champ.

### Webathon

- Conducted from 9<sup>th</sup> June 2021 to 19<sup>th</sup> June 2021
- The society had organized a webathon in which the participants were given the problem statement to design a personal portfolio website.

### Mould AI collaboration

- Conducted on 4<sup>th</sup> October 2021

- Mould AI in collaboration with our society conducted a seminar on their courses which were being put up at a discount of over 60% for our college students.

## ***Creatiufacts-2***

- **Conducted from 25<sup>th</sup> December 2021 to 30<sup>th</sup> December 2021**
- The Society released five posters along with five videos on Instagram to explain and highlight five most used tools in adobe XD.

## ***Webathon (GC)***

- Competition was conducted as a part of GC in which three problem statement were given and the teams had to select one problem and provide the required solution.

## ***Alternate Movie Poster Design (GC)***

- Alternate Movie Poster Design Competition was conducted as a part of GC where contestants had to design an alternate poster for an already released movie.

## ***Web work***

- Designed and developed the website for 'Astro champ', Nakshatra's event.
- Designed and developed the website for "Mindball" , a prediction league game for Eurocup and Copa America, in collaboration with sports council.
- Designed and Developed the Academic council website which keeps a record of academic resources in google drive, and works as a compiled medium to get to the required resource effectively.
- Designed and developed a website to ease the system of gate pass issuing for students.
- Developed and maintained website made for General Championship 2022.
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## ***Design work***

- Designed and Distributed certificates for gymkhana members of year 2018-2019, 2019-2020, 2020-2021, gymkhana executive council members of year 2019-2020, 2020-2021.
- Designed poster for world environment day.
- Designed a report of ongoing works by the gymkhana updated till 22/10/2022
- Designed three Independence Day posters for the institute, meeting the requirements as per request.
- Designed three posters for Counselling Services Team(CST) on mental health.
- Designed two posters for the institute on the occasion of republic day.







### ***CAD workshop series***

- CAD Workshop was organized to help the students to start with robot designs. We conducted multiple sessions in this CAD workshop series, in this session we started with basic CAD drawings and extruding objects.



### ***CAD Contest***



- CAD contest was organized for the students to rank their knowledge among other students in the college, about 45 students participated.

## Smart car challenge

- It was the Robotics competition organized by NXP semiconductors in collaboration with Time of sports(TOS) on the PAN India level, the objective was to make a self-driving car simulation, where the car can navigate itself on a road, can follow traffic lights, and avoid obstacles in between, taking ddddddroad, Our team reached grand finals and was in top 10.



## Robonetics workshop



- R.I.S.C in collaboration with Technalogy conducted a robotics workshop for the students in the month of October to encourage the students in the field of robotics. The platform offered internships as well as more than 100 students enrolled in the month-long workshop series.

## Computer Vision workshop

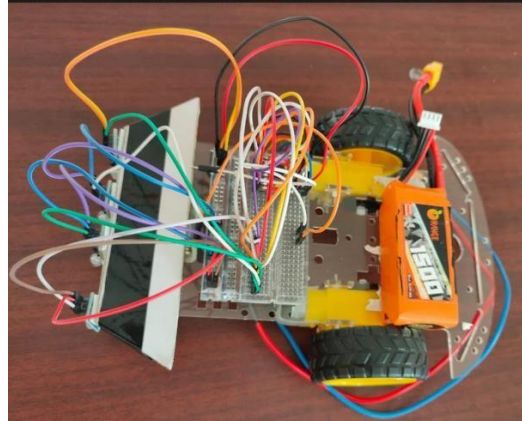
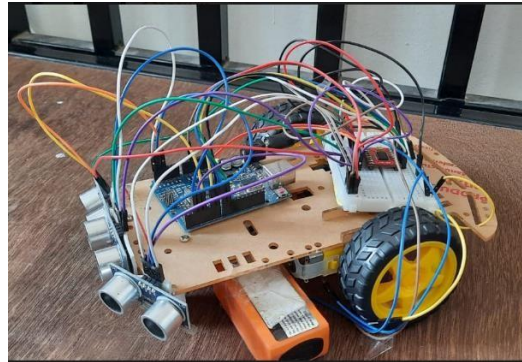
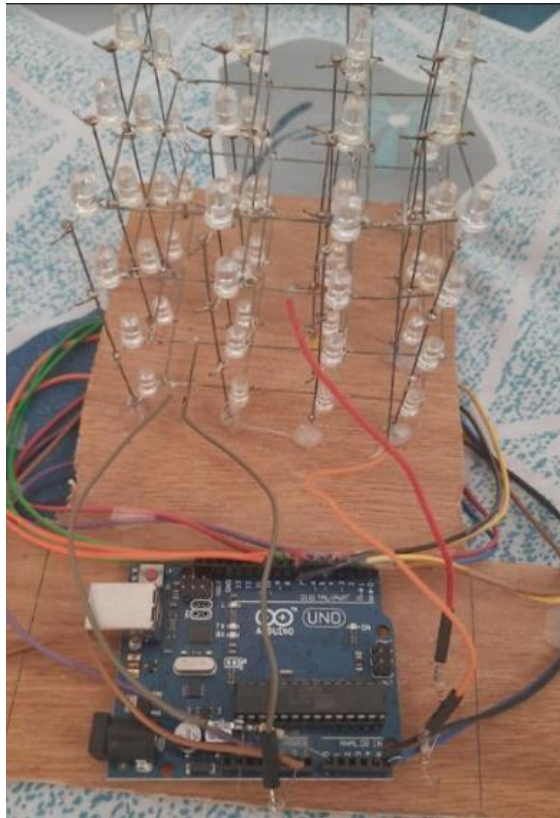
- A computer vision workshop was organized for the students to give their robots the vision to navigate themselves and take it forward to complete automation. We used the OpenCV library on VS code to conduct this workshop.





## ***R.I.S.C mini projects***

- We started mini projects in society to increase the society member's engagement in robotics, we started with 8 different projects and later the projects were floated for all the students in our institute for their contribution.



## ***Automated warehouse robots***



It was the Robotics competition organized by Flipkart GRID, the objective of this robotics competition was to make multiple self-driving robots that can deliver packages in a structured environment using swarm robots. Our team reached the semifinals and was in the top 15 on the PAN India level where around 600+ teams participated in this event.

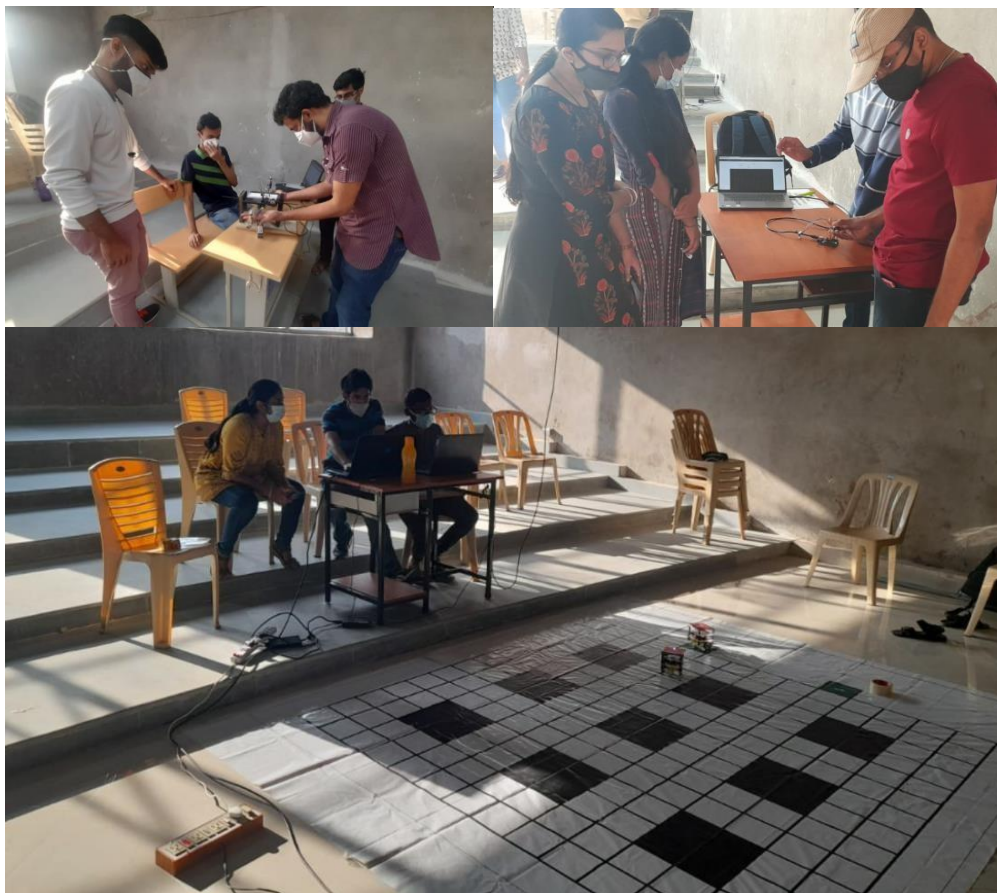
## Arduino workshop

- An Arduino workshop was organized for the 1st year students to introduce them to the world of robotics. We made the hardware components available to the students so that they can have hands-on experience with robotics stuff, and they performed the tasks along with the workshop.



## R.I.S.C Exhibition

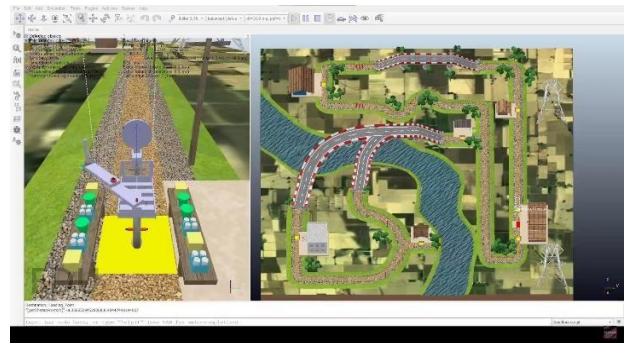
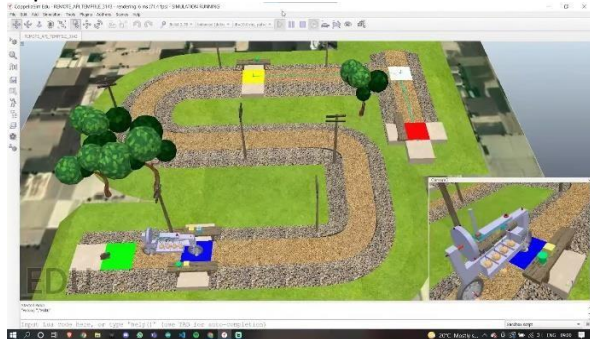
- All the projects from the robotics society done in the academic year(2021-2022) were showcased and demonstrated in PLHC on Institute foundation day.





## ***Dairy bike project***

It was a robotics competition organized by E -Yantra IIT Bombay in collaboration with MHRD, the objective of this competition was to make a self-balancing bike that can deliver dairy products in rural areas, more than 5 teams participated in this competition, 2 teams from our society ended up in top 10.



## ***Yanthrix***

- Yanthrix is an event organized by R.I.S.C as a part of Wissenaire(Tech fest of IITBBS). As the competition was held in both online and offline mode for the students inside the campus and for the students from other universities. In the Arduino hackathon the students were given a problem statement and they had to give a robotics solution to the problem using NodeMCU as the base circuit. In RoboCAD the students were given a design problem where they have to give a CAD solution to the given problem.



## ***General Championship***

- General Championship organized by student's gymkhana IIT BBS where different branches compete in more than 80+ events. R.I.S.C being a Technical society organized a CAD Contest where the students were given a design problem where they had to give a CAD solution to the given problem. Arduino hackathon where the students were given a problem statement and they had to give a robotics solution to the problem using NodeMCU as the base circuit.





# Neuromancers - The Programming Society

## ***Session on competitive Programming***

- A general session on Competitive Programming **exclusively for the freshers** was conducted, and members of the society shared personal experiences on how they excelled in competitive programming, and provided guidance to the freshers on how they could do the same. This was followed by a Q&A round in the end, which showed an active and enthusiastic response from the audience.



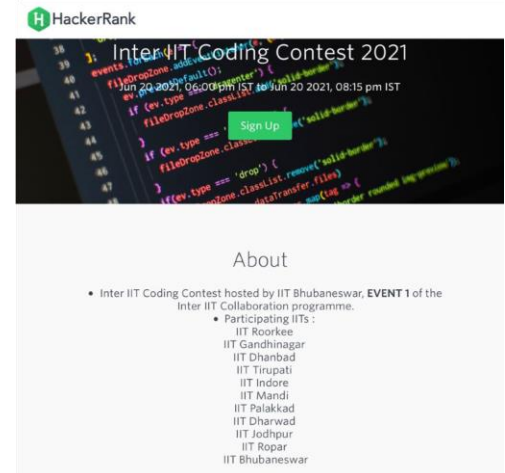
## ***Neuromancers Coding Contest June 21***

- A coding contest was organized by Neuromancers in collaboration with Nakshatra for AstroChamp 21', and certificates were given to the top 3 participants.





## Inter IIT Coding Contest



- As part of the inter IIT collaboration program initiated by IIT Bhubaneswar in 2021, we hosted the first event : an inter IIT Competitive Coding Contest.

## Neuromancers Coding Contest Aug '21

- Competitive Coding Contest for all the students of IIT Bhubaneswar which saw enthusiastic participation from freshers.



## Neuromancers 2021 Challenge Series

- A coding Contest was organized specifically for the final year students, to help them prepare for the placement coding rounds. 2 competitions were conducted over a course of 2 weeks, to emulate the Online Tests of popular software companies.



## Algorithm Horcrux 1.0

- A 2-day coding event was organized in collaboration with NIT Roukela, which saw participation by students from various colleges all over India. A dedicated website was developed for this event. Certificates signed by professors from both universities were given to participants at the conclusion of the event.
- This event also had sponsors like GeeksforGeeks,
- Placewit, Glarizon, PrepBytes, etc. and media partners (Rourkela 360) and prizes were given to winners.



**Neuro  
2021**



## Placement Challenge Series

- A series of 3 mock coding tests were organized by Neuromancers, for the placement preparation initiative of the Science and Technology Council. The competition(s) saw participation from many students, and upto 50 top participants from each contest were given the opportunity to appear for a mock placement interview

### Neuro 2021 Placement Challenge - 1 [Details ▶](#)

#### Challenges

##### Stone-Wars

Success Rate: 22.67% Max Score: 10 Difficulty: Easy

Solve Challenge

##### Lucifer

Success Rate: 58.93% Max Score: 20 Difficulty: Easy

Solve Challenge

##### Nuclear Strip

Success Rate: 6.67% Max Score: 30 Difficulty: Medium

Solve Challenge

##### Golden Warrior

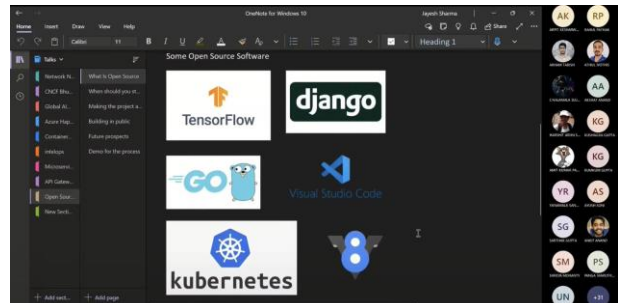
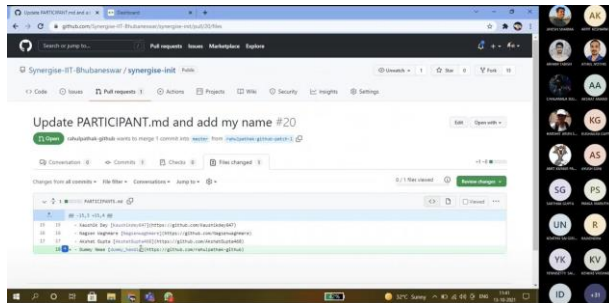
Success Rate: 30.00% Max Score: 40 Difficulty: Medium

Solve Challenge

with alumnis who had been placed in top companies.

## Intro to Open Source

- A short informative session was taken up by a few senior members of Neuromancers, to help beginners understand what Open Source Software development is, how to get into it, and explain fundamental Git/Github workflows.



## Synergise

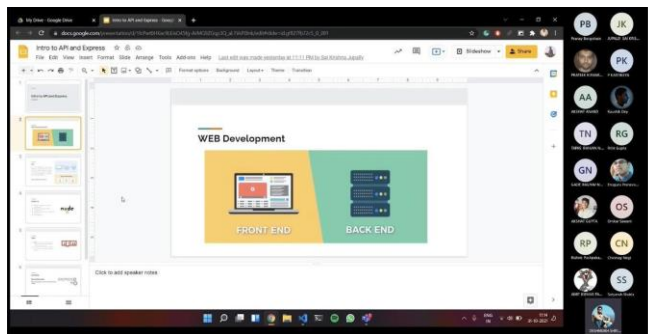
A 3-month long open source software development event was organized, which comprised 9 different project repositories to which participants could contribute and prizes were given to the top 3 contributors (participants) and the top project maintainer.



### Introduction

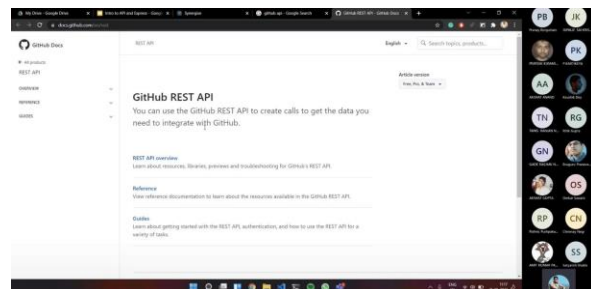
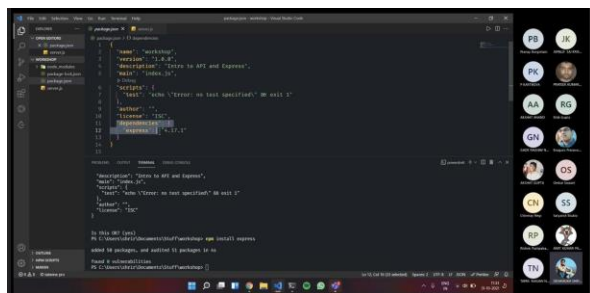
**SYNERGISE** is an initiative by Neuromancers and GDSC IIT Bhubaneswar to nurture students with no or less experience in Free or Open-Source Software (FOSS) development. This will provide an environment to learn and collaborate, while breaking fear of open-source contributions.

Google Developer Student Clubs  
IIT Bhubaneswar



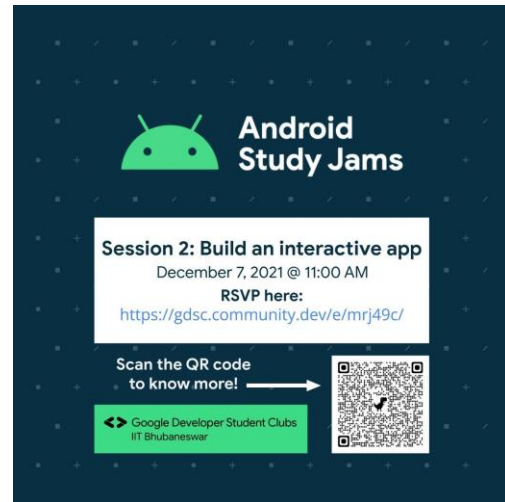
## Introduction to building APIs with Express.js

- A session on building APIs with NodeJS and Express.js was organized for the sophomore batch of Neuromancers, by the pre-final year members of the society.



## Android Study Jams

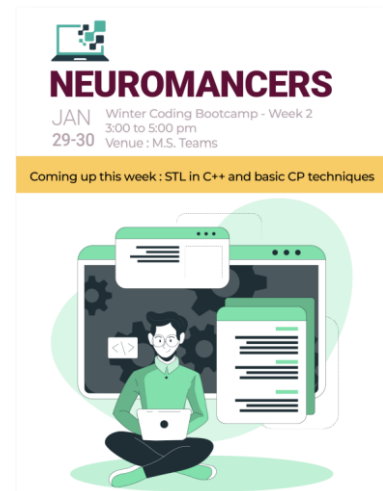
- A series of sessions taken up by core team members of Google Developer Student Club, IIT Bhubaneswar and Neuromancers were organized as an introduction to Android concepts, for beginners.





## Winter Coding Bootcamp

- This was a month-long programme intended for freshers, aimed at introducing them to programming and problem-solving. 3 interactive workshop sessions were held, and mentors were assigned to groups of participants to aid them during the learning process.
- This was followed by an algorithmic problem solving competition to allow the participants to apply what they learnt.



## Competitive Programming Contest



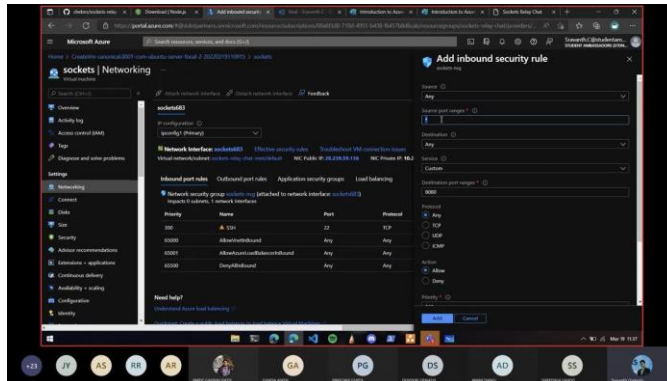
universities as well.

- A **rated** (for Divisions 2, 3 and 4) contest hosted on CodeChef, with problem statements set by the society members was conducted, which was open to people from other colleges and



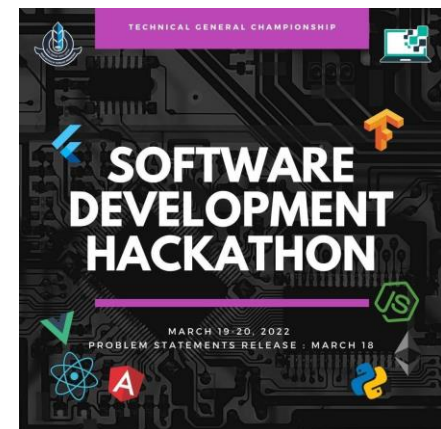
## Azure Workshop

- A webinar was conducted to introduce attendees to the concept of cloud computing and its fundamentals, by building a simple chat server in JavaScript and deploying it to the cloud using Microsoft Azure.



## Software Development Hackathon

- A software development hackathon with 3 tracks for teams to choose from was organized as part of the General Championship. Teams had to build a working prototype of a project that solved the problem within 2 days. 3 alumni of IIT Bhubaneswar who had been part of the Programming Society were invited as judges for this event.



### ***OOP Design Challenge***

- Participants needed to provide a low-level object oriented design and implementation for a "Students' Gymkhana Management System", along with an explanation of their solution using class diagrams, its code in any OOP language, followed by a live demo.



### ***Software Internship Guidance Session***

- An interactive offline seminar was organized by final and pre-final year students of the Programming Society, to provide mentorship and guidance to the sophomore batch for their upcoming internship interviews, and their preparation for the same.

