RANCHO LABS

IHFC | Technology Innovation Hub of IIT Delhi

Robotics
Winter camp



Future-Ready Learning,
Crafted by **IIT Delhi Alumni**











For Grade:

3rd to 5th





Unlock the Sky with Innovation
Turn Your **Curiosity** into **Creation** this Winter

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Who we are?

We reimagine how children learn, making it hands on, engaging, and real-world exploration based. Guided by an ethos to build a better future with experiential learning in a better way, **Rancho Labs was founded** by **IIT Delhi Alumni** to bring education in **AI**, **Coding**, **Robotics**, and **innovation** to life.

Incubated at IHFC, IIT Delhi, and trusted by over **25000+ parents worldwide**, we're empowering innovators with future-ready skills. We have come a long way, but we're only getting started.

4.9/5
Average Rating by Parents

10 +
Research Papers Written

700 +
Innovations Projects

50 +
Competition Winners







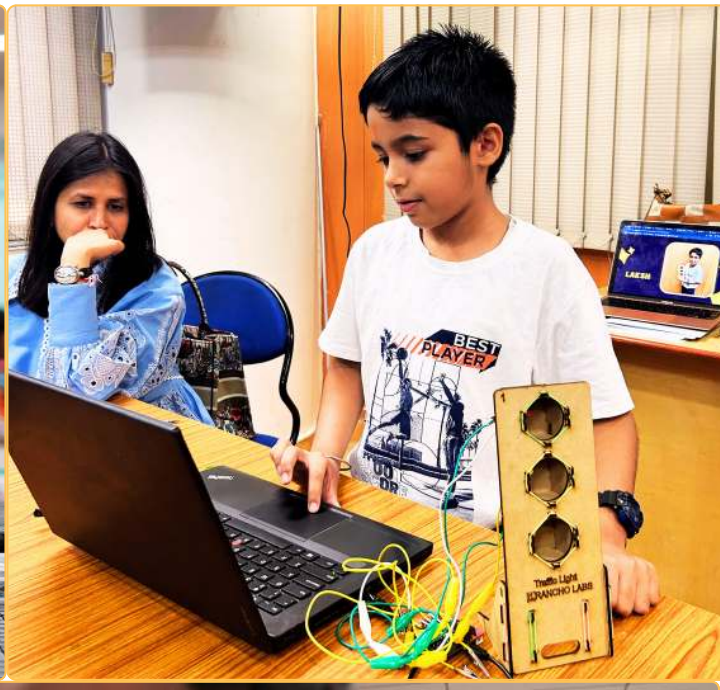
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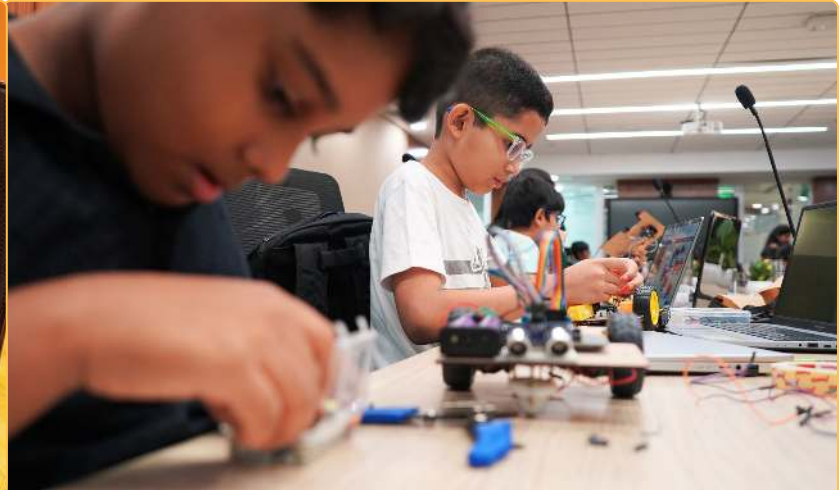
About the Program

The Robotics Camp by Rancho Labs provides **hands-on learning** in advanced robotics and coding for students. Activities include building a dancing LED floor, designing 3D models, and creating obstacle-avoiding cars, **fostering problem-solving**, **creativity**, and **real-world tech** skills through engaging challenges.









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Learning Outcomes

- Learn **3D Design, Circuits** and its programming
- Develop **5+ hardware** projects during the camp
- Develop **10+ programs**
- Understand how to apply Coding and Robotics concepts in **real-life case scenarios**
- Solve **interesting challenges** using coding and design thinking



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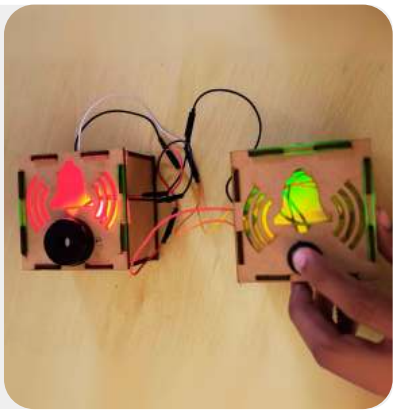
Camp Schedule

(2 hours each)

Session 1

Doorbell

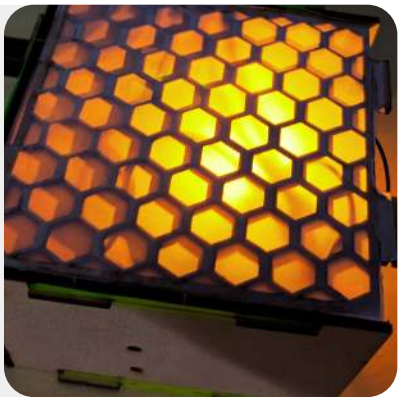
- Introduction to robots vs machines
- Understanding circuits & power flow
- Loads, switches & push buttons
- Breadboard connections
- Building and testing a working doorbell.



Session 2

Dance Floor

- Introduction to Arduino & its pins
- Digital pins & HIGH/LOW signals
- Block coding on mBlock
- Uploading code to Arduino
- Building blinking LED patterns & sequences.



Session 3

Tetrahedron Lamp

- Introduction to NeoPixel LEDs & RGB colours
- NeoPixel pins & connections
- Glowing the strip in colour patterns
- Loops & random number generation
- Building a colour-changing tetrahedron lamp.



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Camp Schedule

(2 hours each)

Session 4

Light Saber

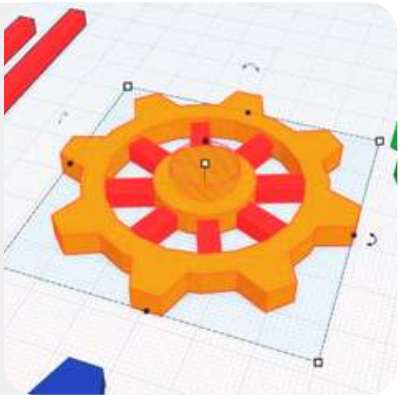
- Introduction to sensors
- Tilt sensor pins & connections
- Concept of conditions (if-then logic)
- Changing NeoPixel colours with sensor readings
- Building a motion-reactive light saber



Session 5

3D Designing

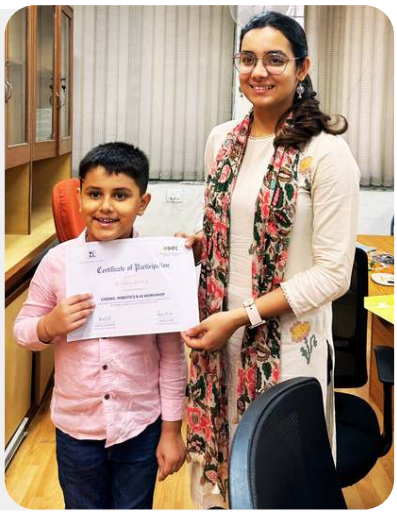
- Introduction to Tinkercad for 3D designing
- Understanding 2D & 3D shapes
- Exploring the platform's design tools
- Free-hand 3D designing activity



Session 6

Convocation & Project Showcase

- Introduction to NeoPixel LEDs & RGB colours
- NeoPixel pins & connections
- Glowing the strip in colour patterns
- Loops & random number generation
- Building a colour-changing tetrahedron lamp.



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Certificate of Completion



Certification by **Rancho Labs** &
Technology Innovation Hub of IIT Delhi



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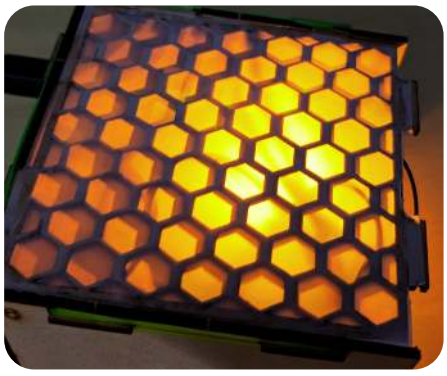
Robotics Kit (For Grade 3rd to 5th)



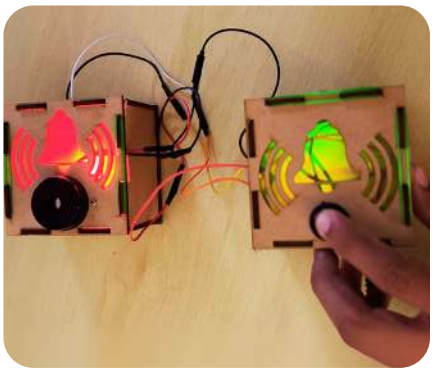
Robotics Kit



Electronics & 3D Prints



Cutout for Disco Floor



Cutout for Door Bell Project

Kit worth Rs 5000/-

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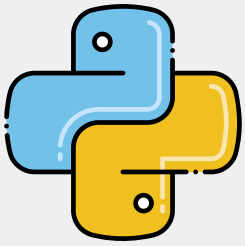
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Discover more Programs



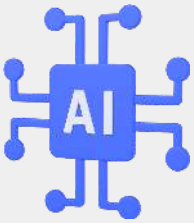
Game Development Winter Camp

For Grade 2- 5 | 6- 12



Python Programming Winter Camp

For Grade 6-12



AI winter camp

For Grade 6-12



Drone winter camp

For Grade 6-12

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Locations & Fee Structure

1. Offline Centres

Visit our state-of-the-art innovation labs for an immersive, hands-on experience:



Head Office(IIT Delhi):

Rancho Labs, 1st Floor, Vishwakarma Bhawan, IIT Delhi, New Delhi - 110016

Offline Learning Centres:

- Gurugram Center: DLF Phase-1
- Noida: Spectrum Metro Mall, Phase-1, Sector 75
- Vasant kunj

2. Fee Structure

Offline Fee: ~~Rs.17,000/-~~ **Rs.15,000/-**



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Proof of Excellence

Rancho Labs has been an incredible learning partner for my son, Bhavik, over the past two years. Their structured approach to teaching coding and AI has not only strengthened his technical skills but also helped him develop logical thinking and a problem-solving mindset. The emphasis on design engineering and real-world applications has given him a strong foundation for the future. We truly appreciate their dedication to nurturing young minds and making learning both engaging and impactful. Thank you, Rancho Labs, for inspiring and empowering the next generation of innovators!



Puneet Arora & Payal Madan Arora

Parents of **Bhavik Arora**

CEO @Advolt Pvt Ltd
CEO@Gofitness



Aabir is very fond of his Robotics class and he enjoys his time at Rancho Labs and always excited to come to the class to learn new challenging projects. Rancho Labs and their faculty has raised the bar for many such communities/institutions by providing first hand experience/practical exposure to kids. Encouraging the kids to think out of the box and solve daily challenges has actually made my kid even more smarter and a great problem solver. Truly appreciate the hard work that goes in the background by the teachers to make that every session extremely enjoyable and rewarding for the students every time.



Indu Gupta

Mother of **Aabir**

Project Manager in Network Automation at Cisco

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Proof of Excellence

I am incredibly grateful to Rancho Labs and the entire team for providing such an engaging and inspiring robotics program for young minds. My daughter, Ivana Gupta, has truly enjoyed every session. The hands-on learning, the practical exposure, and the encouraging teaching style have sparked a genuine interest for technology in her.
It's been heartening to see her excitement after each class and the confidence she has gained.
Thank you for nurturing curiosity and laying such a strong foundation for the future.



Neha Gupta
Mother of **Ivana Gupta**

Director, PwC India

My son Rinawma, 12 years, is a special needs child. I am so happy to enroll him in Rancho Lab's Robotics class. He enjoys the classes by Dhananjay who's a gentle and patient teacher. I am impressed by the young and energetic staff that have guided us through the registration process and willing to lend a patient ear to all our queries. I am especially pleased that they allow for rescheduling of classes in case I, a working mother, cannot take him to class because of work commitments.



Kooki Ralte
Mother of **Rinawma Chawngthu**

Asst. Professor, Dept of English, PGDAV College, University of Delhi

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The Journey Begins Here

Contact Us

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