



RANCHO LABS



Technology
Innovation Hub
of IIT Delhi

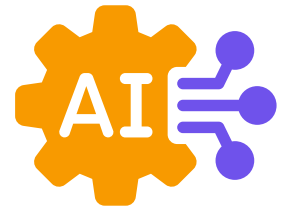
AI PROGRAM YOUNG INNOVATORS

Backed & Funded by
**Technology Innovation
Hub of IIT Delhi**



॥ अद्य अध्ययनं,
श्वः निर्माणम् ॥





About Us

Rancho Labs, funded by IIT Delhi Technology Innovation Hub and Department of Science and Technology, is an ed-tech startup founded by IIT Delhi alumni and professors. We aim to spark student curiosity and highlight career opportunities in AI, coding, and robotics through hands-on learning. At Rancho Labs, students apply their knowledge immediately, learning, building, and innovating daily.

Why this Program?

Artificial Intelligence (AI) is transforming industries from healthcare to entertainment, driving innovation and creating millions of new jobs. Teaching AI skills equips students for future careers, enhances critical thinking, and fosters adaptability in a rapidly changing world. In today's competitive landscape, understanding AI is essential for success.

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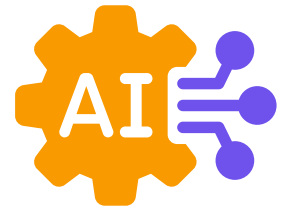


IIT Delhi



विज्ञान एवं प्रौद्योगिकी विभाग
DEPARTMENT OF
SCIENCE & TECHNOLOGY

About Program



Welcome to the Young Innovators Program, an exclusive opportunity to unlock your child's extraordinary potential and prepare them to lead the AI revolution. Our meticulously crafted program ignites a lifelong passion for innovation, equipping young minds with the tools and knowledge to become true trailblazers in the technological landscape.

The program unfolds in four exciting stages, each building upon the last:

Stage 1

AI Pioneers

AI Pioneers is a 3-month foundational program in Python programming, designed to kickstart students' journey in the field of AI.

Duration: 3 Months

Stage 2

AI Nexus

AI Nexus is a 6-month program in Python and artificial intelligence, designed to advance students' Python skills and introduce them to AI and ML concepts.

Duration: 6 Months

Stage 3

AI Elite

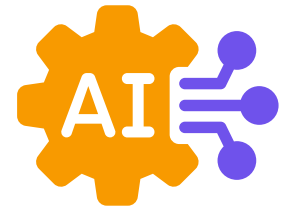
AI Elite is a 3-month program where students dive deep into Artificial Intelligence, Machine Learning, and Deep Learning, focusing on innovating AI-based models.

Duration: 3 Months

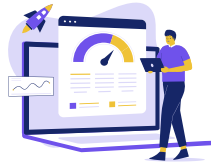
Stage 4

AI - X

In our program, experienced instructors with advanced degrees guide you through a socially-driven AI project. You'll work in small teams to address impactful AI challenges in fields like healthcare and transportation, benefiting from expert mentorship.



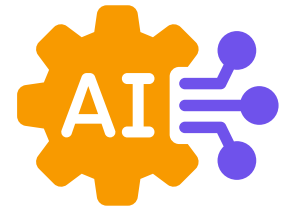
AI Pioneers

Module Number	Topic	Projects	Teaching Hours
1	Python Programming Core Concepts like variables, If-else condition, loops, data types	• Calculator • Bill Generator • Instagram Controlling Bot 	8 hrs
2	Nested For Loop, Data Structures, List, Tuple, Set & Dictionary	• QR Code Generator • Area Calculation • Palindrome String 	8 hrs
3	Strings, String Methods, Functions, Built-in Functions, Recursion, Modules, Functions.	• Typing Speed Test • Auction Calculator • Read/Write Files 	8 hrs

Duration: 3 Months

Session Duration: 2 hrs per week

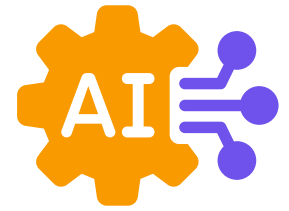
AI Nexus

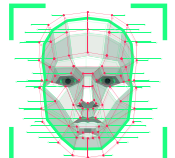


Module Number	Topic	Projects	Teaching Hours
1	Streamlit, Error Handling & Debugging, Debugging Techniques, OOps concepts	- Error Handling - Object Oriented - Programming 	8 hrs
2	Chatbot Development & Matplot Lib Library	Chatbot 	8 hrs
3	Data Visualization, Numpy, Numpy Arrays, Pandas & Data Manipulation	Data Visualization 	8 hrs
4	Python Revision, Introduction to AI & ML, Analyze data using pandas	Analyzing IRIS Dataset 	8 hrs
5	Linear Regression, Multiple Linear Regression, Logistic Regression, Confusion Matrix, F1-Score	- Breast Cancer Prediction - Admission Data Project 	8 hrs
6	Decision Trees, Visualization, Tuning, K-Nearest Neighbours Algorithm	- KNN Model - Hear Disease 	8 hrs

Duration: 6 Months

Session Duration: 2 hrs per week

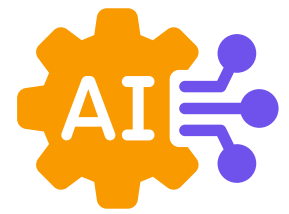


Module Number	Topic	Projects	Teaching Hours
1	Support Vector Machines, Different types of SVM's, Revision of ML, Regex	SVM on Diabetes Data (predict diabetes outcomes based on patient data features) 	8 hrs
2	NLP & Deep Learning, Neural Network, Activation Function	Sentiment Analysis (categorizes text to identify emotional tone as positive, negative, or neutral) 	8 hrs
3	Image Processing & Innovation Project	MNIST Dataset Image Recognition (training models to classify handwritten digits from the MNIST dataset) 	8 hrs

Duration: 3 Months

Session Duration: 2 hrs per week

Methodology



STEP 01

Online/Offline Sessions

Qualified and Experienced Instructors to take quality sessions



STEP 02

Practice Assignments

Providing students with hands-on exercises and coding challenges to reinforce their learning.



STEP 03

AI & Programming Projects

Hands on application of concepts on AI Projects



STEP 04

Evaluation

Objective and Subjective Evaluation on regular basis to give real-check points to the students



Key Feature of the Program

- ◆ Innovation-Driven Learning
- ◆ Accredited Instructors & Comprehensive Curriculum
- ◆ Enhanced Critical Thinking
- ◆ Problem Solving Attitude
- ◆ Certification
- ◆ Hands-On AI/ML Projects
- ◆ Small Batch Size

Community Access

Community access to Google Developer & AWS + participation to different clubs of IIT Delhi



Mentorship

Regular guidance and mentorship for competitions & projects

Industry Exposure

Guest Lectures by Industry Experts

Compete & Win

Participate in different hackathons & National & International Competitions



SMART INDIA HACKATHON

Inter School Competitions



inspire -manak

Pradhan Mantri Rashtriya Bal Puraskar 2020 award to Siddharth

(also featured in Hindustan Times)



SIDDHARTH KUMAR GOPAL,
class VII; St Thomas Residential School, Thiruvananthapuram

Project: Boat-o-Bed

THE PROJECT: A prototype of a smart bed; 'Boat-o-Bed' is aimed at making bedridden people atmanirbhar in the event of a flood. The bed is equipped with a GPS/GSM unit. Using a moisture sensor and servo motors, the smart bed will automatically tilt down, and the patient along with the bedding will start floating. Simultaneously, an alert will be sent to pre-configured telephone numbers, which will help the rescue workers to reach the person in need faster:

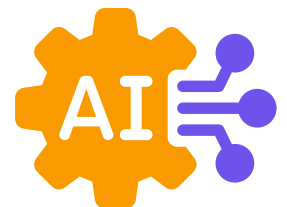


The idea came up, when I saw the difficulties faced by the rescue workers to rescue bedridden people stranded during Kerala floods. They were lifted along with their beds on the...

The program by Rancho Labs has been a great learning experience for Siddharth. The classes were well planned and executed and the instructors were available round the clock to clarify doubts. Hands-on projects in stimulated environments helped students to reinforce concepts learned every day. I am happy to have enrolled my son in this course, as it has given him a solid foundation to 'futureproof' his skill sets.

~ Vandhana - Siddharth's Mother

Innovation Projects from Students



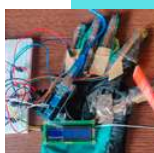
ATREYI KAUL
CLASS 6TH

SCAN QR
TO VIEW
THE
PROJECT



AUTOMATIC HAND SANITIZER

Integration of different domains of technology with AI. Rancho Labs provides best in class teaching resources for teachers and students



SMART GLOVE

The project helps deaf people to communicate directly with non-signers without needing someone else. The system includes a pair of gloves with sensors that turn finger movements into electrical signals, and a text message is displayed on the LCD output.



VIBHAV AGRAWAL
CLASS IITH

SCAN QR
TO VIEW
THE
PROJECT



"The best way to predict the future
is to invent it." - *Alan Kay*



**GREAT
MINDS**

**START
YOUNG!**

Contact Us



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