भारत अंतरिक्ष अकादमी
अंतरिक्ष शिक्षा विभाग (आईएसडब्ल्यू)
बी ए/14 बी जनकपुरी
नई दिल्ली – 110058, भारत
दूरभाष संख्या : 011–44749707, 8130317917
ईमेलः info@isa.ac.in, contact@isa.ac.in
वेबसाइटः www.isa.ac.in

India Space Academy
Department of Space Education (ISW)
BA/ 14 B Janakpuri
New Delhi - 110058, India
Telephone no: 011-44749707, 8130317917
Email : info@isa.ac.in, contact@isa.ac.in
Website: www.isa.ac.in

Ref- ISA/IND/AIML/177/2025 **Date: 02 February 2026**

From,

Director
India Space Academy
New Delhi.

To,

Registrar, Vice Chancellor,Head of Dept, Dean, Principal
All Central Universities, State Universities, Deemed Universities,
State Private Universities, Colleges, Institutions,
All States - India.

Subject: "Request to upload this announcement via websites, letters, or official channels to all faculty, students, and officials, inviting participation in the six-day online program on "AI & ML in Space Exploration." - Reg

Respected Sir/Madam,

"Kindly disseminate and upload this announcement via website/letter/official channels to all the faculty, students, and officials, inviting their active participation in the upcoming six-day online program on 'AI & ML in Space Exploration." - Reg

This specialized training program is designed to equip students, faculty, and researchers with cutting-edge knowledge of Artificial Intelligence (AI) and Machine Learning (ML) and their transformative role in the space sector. As space missions grow more complex, sensors generate massive volumes of data, and the demand for autonomous systems accelerates, AI and ML have become essential enablers of innovation and efficiency in space science and engineering.

The Government of India, under the visionary leadership of **Honorable Prime Minister Shri Narendra Modi Ji**, is driving major reforms in the space sector to strengthen India's role in global space exploration and industry. Progress in advanced propulsion technologies, private participation, and commercialization of space has opened up exciting career and research opportunities for students, educators, and professionals.

In alignment with the vision of Viksit Bharat, India Space Academy, an autonomous part of India Space Week, is delighted to announce our Six Days Program on AI & ML in Space Exploration. This Program will provide students and faculty with insights into the fundamentals of Space Exploration, Operations, Robotics, and the future of AI (Artificial intelligence) and ML (Machine Learning) in India and worldwide. It aims to equip participants with the knowledge and inspiration to contribute towards India's growing space ecosystem.

Program Details:-

- Day 1 — Foundations of AI & ML in Space
- Day 2 — Space Exploration & Robotics
- Day 3 — Satellite Operations
- Day 4 —Spacecraft Systems & Autonomy
- Day 5 — Space Data Analysis & Pattern Recognition

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- Day 6 —Advanced Applications & Case Studies

Important Updates:-

- Mode: Online (via Zoom platform)
- Program Start Date: 23rd February 2026
- Program Last Date: 28th February 2026
- Session Length: 90 Minutes (Per Day)
- Session Timing: 05:00 PM to 07:00 PM
- Total Duration: 6 Days
- Venue: Zoom Platform
- Language: English
- Eligibility: Undergraduate & Postgraduate students, Faculty members, research scholars Enthusiasts
- Tuition Fee (Non-Refundable): ₹1200/- (Per Participant)
- Certificate: Participants will receive an official Training Completion Certificate, A Project Completion Letter and Project Evaluation Report will be given to those participants who undergoes project work.

Registration:-

- Start Date: 2nd January 2026
- End Date: 21st February 2026

Registration Link:- https://indiaspaceweek.org/ai_ml/

We kindly request that all institutions, departments, and universities upload this announcement to their official websites and disseminate this information widely among their students.

We request that you kindly circulate this information among students and faculty members and encourage their active participation. This program will enhance technical knowledge and practical skills and inspire the next generation of space scientists, engineers, and innovators.

Your active participation will significantly contribute to enhancing the technical skills and innovation potential of students and teachers.

"विकसित भारत @2047 – आत्मनिर्भर, सशक्त और उन्नत भारत"

भवदीय

निदेशक/Director
भारत अंतरिक्ष अकादमी/India space Academy
नई दिल्ली/New Delhi
निदेशक कार्यालय/**Director Office**
भारत अंतरिक्ष अकादमी/**India Space Academy**

INDIA SPACE ACADEMY

DEPARTMENT OF SPACE EDUCATION

INDIA SPACE WEEK

भारत अंतरिक्ष अकादमी

INDIA SPACE ACADEMY

Artificial Intelligence & Machine Learning in the Space Exploration

ORGANIZED BY INDIA SPACE ACADEMY

विकसित भारत अभियान 1947 TO 2047

Skill India
कौशल भारत - कुशल भारत

INDIA SPACE ACADEMY

India Space Academy is an academic institution under the Department of Space Education of India Space Week.

India Space Week is an autonomous body with support from central and state governments. The role of India Space Week is to promote space education and employment among the students, teachers, and research scholars of schools, colleges, universities, and institutions.

The academy develops workshops that spread awareness about the current requirements of the space industry. Also, it develops various programs to equip the students with the right information, skills, practical exposure, research exposure, and training to make them future-ready.

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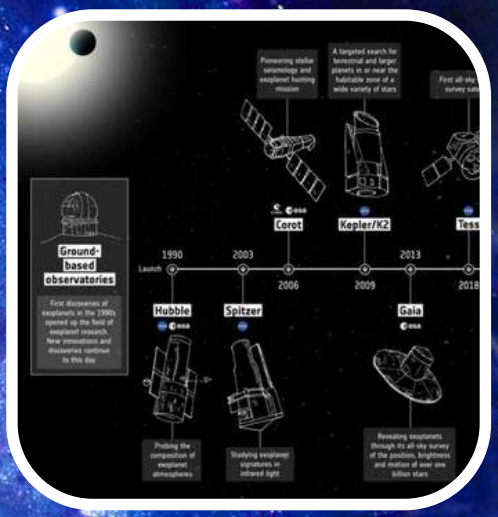
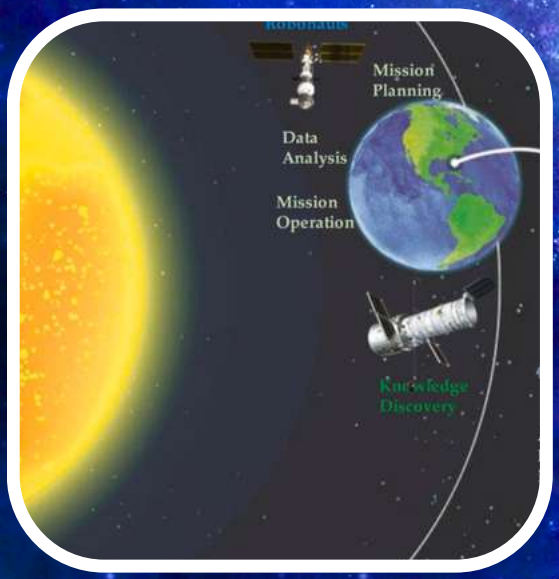
PROGRAM OVERVIEW

This specialized training program is designed to introduce students, faculty, and scholars to the practical applications of Artificial Intelligence (AI) and Machine Learning (ML) in the space Exploration. With increasing mission complexity, vast data volumes from advanced sensors, and the growing need for autonomous systems, AI and ML are becoming indispensable tools in space science and engineering.

The program provides focused instruction on applying AI/ML techniques to real-world space challenges, including mission operations, space data analysis, and onboard autonomy.





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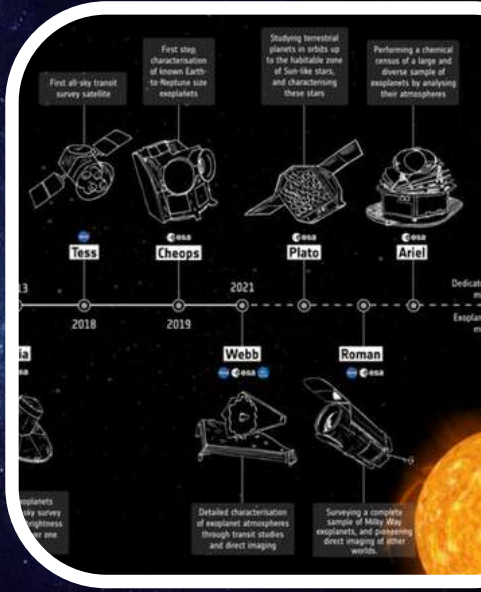
OBJECTIVES

- Apply AI & ML algorithms for mission planning and predictive maintenance
- Process and analyze space datasets for telemetry and astronomical problems using Python libraries
- Develop strategies for deploying AI onboard spacecraft under real-time constraints
- Understand implementation frameworks for AI & ML in space systems
- Examine case studies from national and international space missions



TRAINING CONTENT

Day 1 — Foundations of AI & ML in Space

→ Introduction to AI & ML: Core concepts, algorithms, supervised vs. unsupervised learning.
→ Space Data Characteristics: Big data from satellites, sensors, and telescopes.
→ AI Ethics & Reliability: Safety-critical systems in space missions.

Day 2 — Space Exploration & Robotics

→ Autonomous Rovers: Path planning, navigation, and decision-making.
→ Robotic Arms & Manipulators: AI-driven control for ISS and planetary missions.
→ Human-Robot Collaboration: AI-assisted astronaut support.

Day 3 — Satellite Operations

→ AI in Satellite Health Monitoring: Predictive maintenance and anomaly detection
→ Orbit Prediction & Optimization: ML models for trajectory planning.
→ Communication Systems: AI for bandwidth allocation and signal optimization.

TRAINING CONTENT

Day 4 — Spacecraft Systems & Autonomy

→ Onboard AI Systems: Real-time decision-making without ground control.
→ Fault Detection & Recovery: ML for resilience in spacecraft.
→ AI in Propulsion & Power: Efficiency optimization

Day 5 — Space Data Analysis & Pattern Recognition

→ Remote Sensing Data: ML for Earth observation and climate monitoring.
→ Astronomical Data Mining: Detecting exoplanets, black holes, and cosmic events.
→ Image Recognition: AI for star maps and galaxy classification.

Day 6 — Advanced Applications & Case Studies

→ Optical Communication: AI-enhanced laser communication systems.
→ Mission Case Studies: ISRO's Gaganyaan, NASA's Mars missions, ESA's Gaia project.
→ Future Trends: AI in space debris management, interplanetary internet, and quantum ML.

BENEFITS OF PARTICIPATION

- Exposure to emerging technologies in the space domain
- Skill development aligned with national missions such as Skill India and NEP 2020
- Opportunity to engage with experts and practitioners in AI and space science
- Strengthening academic and research credentials in frontier technologies

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PROGRAM SUPERVISOR

DR. ASHOK GOPALAKRISHNAN

Chairperson at International Space University, France and Consultant to Spectragaze (An ISRO Company for Satellite Development-Private Sector)

About Dr. Ashok Gopalakrishan

Dr. Ashok Gopalakrishnan is a senior academician and researcher with over three decades of experience in the fields of computer science, aerospace engineering, artificial intelligence, and environmental modeling, having served in key capacities at institutions such as NASA, IBM, the University of Texas at Austin, and ISRO.

He holds dual PhDs from the Georgia Institute of Technology, an MS from Oxford University, and an M.Tech from IIT Bombay.

His contributions include AI-based space mission planning systems such as Eagle Eye and CASPER at NASA, as well as ongoing research on black hole binaries supported by ISRO.

Dr. Gopalakrishnan has published over 285 research papers in reputed journals and has been recognized with awards such as the IBM WebSphere Champion (2013), the Indian Achievers Award for Excellence in Education (2017), and the Top 100 Global Leaders in Education (2019).

He currently serves as Professor Emeritus and leads multiple national space science outreach and education initiatives at the United Institute of Technology, Coimbatore, in collaboration with ISRO and other agencies.

PROGRAM DETAILS

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- **Last Date of Registration:** 21 February 2026
- **Program Start Date:** 23 February 2026
- **Program End Date:** 28 February 2026
- **Total Duration:** 6 Days
- **Session Length:** 90 Minutes per Day
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- **Eligibility:** Undergraduate & Postgraduate students, Faculty members, research scholars, Enthusiasts.
- **Tuition Fee (Non-Refundable):** ₹1200/- (Per Participant)
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- **Registration Link:** https://indiaspaceweek.org/ai_ml/

CONTACT INFORMATION

INDIA SPACE ACADEMY

- **Email:** contact@isa.ac.in
- **Phone:** 011-44749707
- **Mobile:** 8130317917, 7290071471, 9454394963
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INDIA SPACE WEEK Regional Office (Central Eastern Zone)

- **Email:** up@indiaspaceweek.org
- **Phone:** 0532-4031244

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