INNOVISION

AI FOR A GREENER TOMORROW :
EXPLORING HOW AI IS HELPING COMBAT CLIMATE CHANGE

From the CEO's Desk :
Innovating for a Greener, Healthier Tomorrow

April marks two global milestones, World Health Day (April 7) and Earth Day (April 22), both reminding us of our shared responsibility to nurture people and the planet alike. At OMOTEC, we see Artificial Intelligence (AI) not just as a tool of the future, but as a force for good today- Tech For Good!

AI for the Earth is helping us tackle environmental challenges with precision, from predicting climate patterns and monitoring deforestation, to optimizing energy consumption and enabling smarter farming. These aren't distant dreams, they're real solutions being powered by young innovators like you. Imagine AI systems that reduce waste, conserve water, or educate communities on eco-conscious living. That's the power you hold.

As we reflect on World Health Day, it's clear that AI is revolutionizing healthcare, making diagnoses faster, treatment more personalized, and wellness more accessible. Whether it's a wearable device tracking vital signs or AI tools supporting mental health and rural care, technology is bridging the gaps and saving lives.

The Role You Play, whether you're designing a green-tech prototype or coding an app to support well-being, your ideas matter. At OMOTEC, we believe innovation with purpose can spark real change.

Let's continue to build with empathy, think sustainably, and create solutions that protect our planet and uplift our communities.

Together, let's shape a tomorrow that's not only smarter, but kinder.
Greener. Healthier. Smarter. Together.

Warm regards,
Dr. Shekhar Jain
CEO, OMOTEC

Create Your Own Eco-Bot :

Project Description :

This is an automated waste sorting system designed to segregate waste materials into different categories (such as metal, dry, and other types) using sensors and motorized bins. It promotes environmental awareness and showcases the application of embedded systems, sensors, and automation.

Materials Needed :

1. Arduino Uno
2. IR Sensors
3. Inductive Proximity Sensor
4. Servo Motors
5. Ultrasonic Sensor
6. Jumper Wires, Resistors, LEDs
7. PVC pipe for stand/support
8. Plastic containers or bins labeled
9. Breadboard and connecting base
10. Power source or USB
11. Wooden or acrylic baseboard

Conclusion :

The Smart Waste Segregator project is an ideal example of how technology can be used to address real-world problems. It teaches students about embedded systems, sensor integration, and environmental sustainability, all while developing problem-solving and engineering skills.

Steps :

Step 1 : Set up the Frame
- Mount the bins labeled METAL, DRY, etc., securely on a wooden or acrylic base.
- Fix the servo motor or rotating base to move the top sorting funnel towards different bins.

Step 2 : Connect Sensors
- Mount the **inductive proximity sensor** near the inlet to detect metal objects.
- Place **IR sensors** or **ultrasonic sensors** to detect the type or position of the waste material.

Step 3 : Microcontroller Configuration
- Program the Arduino to:
  - Detect the material using the sensors.
  - Move the funnel or rotating head to the correct bin using servo motors.
  - Activate indicator LEDs as feedback.

Step 4 : Testing
- Drop different materials into the inlet.
- Watch the motor/funnel move the item to the appropriate bin.

Latest Tech News :

SpaceX Captures First-Ever Polar Views from Space!

SpaceX's Fram2 mission has made history with the first video of Earth's polar region from space! The Resilience Crew Dragon, launched from NASA's Kennedy Space Center, carries a four-member crew led by Maltese entrepreneur Chun Wang.

Orbiting at 440 km, they are studying Earth's poles while conducting experiments. SpaceX shared a stunning video of Antarctica, calling it a first in human space exploration!

Ghibli-Style AI Images Take Over Social Media
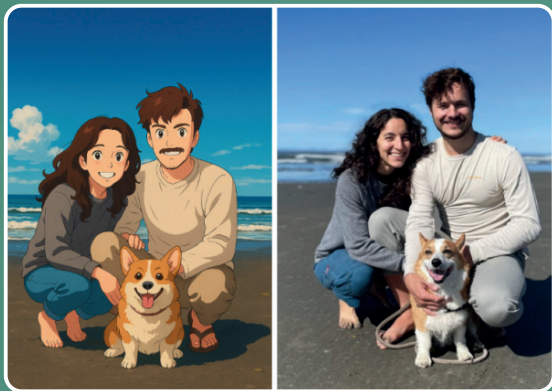
OpenAI's new Ghibli-style AI image generator has gone viral, letting users transform their photos into artwork inspired by Hayao Miyazaki. Elon Musk's AI chatbot, Grok, has also introduced a similar feature in Grok 3.

While many are enjoying the trend, privacy activists warn that OpenAI could be collecting user images for AI training. The debate also raises concerns about AI's impact on artists, especially as Miyazaki himself remains skeptical of AI in animation.

NVIDIA Unveils G-Assist: AI-Powered PC Optimization

NVIDIA has launched G-Assist, an AI-powered tool that optimizes PC performance using voice or text commands. Announced at CES, this feature uses a Small Language Model (SLM) to answer hardware queries, provide real-time diagnostics, optimize graphics settings, and even control peripherals like lighting and fan speeds.

Project G-Assist
AI assistant for your GeForce RTX PC.

With G-Assist, users can monitor FPS, GPU usage, and temperatures, all through simple commands. A smart step towards AI-driven PC performance!
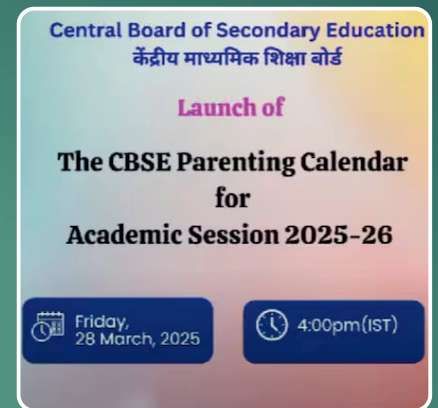
Educational News :

CBSE Launches Parenting Calendar 2025

CBSE has introduced its Parenting Calendar 2025-26, aimed at strengthening parent-school collaboration. Launched in Delhi, the event featured CBSE Chairman Shri Rahul Singh, who described it as a guiding resource rather than a strict manual.

Built on the 4R framework—Relationship Building, Rejoicing, Reflection, and Reinforcement- the calendar offers a flexible, grade-specific approach for schools. A step towards more engaged parenting in education!

Central Board of Secondary Education
केंद्रीय माध्यमिक शिक्षा बोर्ड

Launch of

The CBSE Parenting Calendar for Academic Session 2025-26

Friday, 28 March, 2025   4:00pm(IST)

IIM Ahmedabad Goes Global with Dubai Campus

On March 26, 2025, IIM Ahmedabad (IIMA) announced its first international campus in Dubai, set to open in September. This makes IIMA the first IIM to expand beyond India, joining a growing list of Indian institutions with campuses worldwide, from Africa to London and California.

With this move, IIMA aims to bring its world-class management education to a global audience, strengthening India's presence in international academia.

Cambridge Outlook Explores Digital Exams & AI in Education

The latest issue of *Cambridge Outlook* magazine explores how technology is reshaping education. It announces the launch of digital exams for Cambridge IGCSE and International AS & A Levels, set to begin in June 2026. The magazine shares how Cambridge is working with schools to develop and test these assessments and ensure smooth implementation.

A key highlight is the role of Artificial Intelligence in learning. Rather than focusing solely on AI tools, Cambridge encourages schools to explore how human intelligence and AI can work together to enhance education.

As classrooms go digital, Cambridge Outlook offers a glimpse into the future of learning.

Cambridge

Issue 45, March 2025

Outlook

The magazine for Cambridge schools worldwide

The journey to digital

Inside:
- Exams: why go digital?
- Early adopters: schools paving the way to digital
- Teaching with AI

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cambridge.org/internationaleducation   CAMBRIDGE

Principal's Article :

AI can and will change this world for the better. We must accept the changing process by getting to understand the underlying challenges and learning to adapt.

If used successfully, AI will transform a whole lot of things, and a whole lot of tasks can be lessened and thereby successfully completed faster and better. AI for a greener tomorrow - how?

Let's start with institutions that need to keep tons and tons of records in physical form for any future reference or use. Now, if this task is given to AI, not only will the data be safe, but also easily traceable when needed. In government or private offices like banks, schools, colleges, hotels, etc., just imagine the amount of paper data stored and kept away for future reference. Just imagine the ridiculous amounts of space that schools and offices keep just to store piles and piles of paperwork and documents. For simple things like applying for a passport or visa, or college and school admissions, we use wasteful amounts of paper. All this can be minimized by bringing in systems like the APAAR ID or Aadhar-linked information to be sourced out anywhere, anytime. There is no need to carry documents that may run the risk of getting lost or stolen. AI-embedded operating systems are far more efficient and reliable, as well as faster than ever before, and there are multiple examples of these.

AI in farming is widely used these days. Even illiterate farmers are getting benefitted and can decide when to plant seeds, how, when and how much to water them, when to harvest them, how much manure to be added, etc. AI activated systems even tell the farmers about which land is tillable, which is not; what amount of manure needs to be added, how to till the land, how to make a certain unproductive land worth farming, and many more such miraculous things.

AI in vehicles helps in saving fossil fuels. It tells us the shortest way to reach a place, thereby saving time and energy. AI-powered homes make lives more sustainable and independent. There are ample examples for the same.

AI in Healthcare can have far-reaching results, too, like early predictions of illnesses and diseases, thereby pushing early intervention and healthcare. It can have far-reaching results, though it is still in its evolutionary stage. AI can help save lives by timely predictions.

I prefer to conclude by saying that AI is extremely wonderful, and it won't be an exaggeration if I say AI is miraculous in the way it does and predicts things. It's a wish come true for generations who grew up believing miracles are meant to be.

Ms. Shubha Verma
Principal
Meena Bhujbal School of Excellence

Earth Day 2025 :

Our Power, Our Planet

Every year on April 22, people across the globe come together to celebrate Earth Day, a special event that reminds us to care for our planet. Started in 1970 by U.S. Senator Gaylord Nelson and student Denis Hayes, Earth Day has grown into a movement involving over a billion people in nearly 200 countries.

This year marks 55 years of Earth Day, and the 2025 theme, "Our Power, Our Planet™," is a call to action. It highlights how each of us has the power to protect our environment and ensure a healthier planet for future generations.

From planting trees and saving water to reducing plastic use and switching to renewable energy like solar and wind, small changes can make a big difference.

Today, Artificial Intelligence (AI) is being used to track pollution levels, predict extreme weather like storms or droughts, and even help farmers grow food more sustainably. For example, AI can analyze satellite images to spot forest fires early or detect harmful changes in the environment. It can also help farmers decide when to water crops or use fertilizers, reducing waste and protecting the soil. It's amazing how technology and nature can work together to make our planet healthier!

So let's come together this Earth Day to learn, act, and make a lasting impact. The planet is in our hands!

Choose the Correct Answers :

1. When do we celebrate Earth Day?
A) March 22   B) April 22   C) May 5

2. What is the theme of Earth Day 2025?
A) Heal the Planet   B) Our Power, Our Planet   C) Go Green or Go Home

3. Which of these is a renewable energy source?
A) Coal   B) Wind   C) Petrol

4. How can AI help the environment?
A) Play video games
B) Track pollution and help farmers
C) Make junk food faster

AI for a Greener Tomorrow :

Artificial Intelligence (AI) is shaping the future, not just in technology, but also in protecting our planet. As the world grapples with climate change and environmental degradation, the intersection of artificial intelligence (AI) and sustainability emerges as a beacon of hope. AI, with its vast computational power and data-processing capabilities, holds the potential to drive significant advancements in sustainability. From reducing pollution to saving endangered species, AI is helping fight climate change in powerful ways.

AI and Climate Change : A Smart Partnership
Climate change is one of our biggest challenges. Rising temperatures and extreme weather impact life on Earth, but AI can help! It analyzes climate data, predicts environmental changes, and reduces carbon emissions e.g., **Google's DeepMind**, which optimizes cooling systems in data centers, cutting electricity use and saving energy.

Ways AI helps the environment
1. Saving Energy : AI helps buildings and industries use less energy by predicting usage and reducing waste. For example, Google's AI saves power in data centers, and Tesla's AI improves electric car efficiency.

2. Boosting Renewable Energy : AI makes wind and solar energy better by predicting weather and improving maintenance. GE uses AI in wind turbines to adjust to wind changes, making them work smarter.

3. Smarter Power Grids :
AI helps manage electricity supply and demand, reducing waste. Microsoft uses AI to make its data centers more energy-efficient and aims to be carbon negative by 2030.

4. Sustainable Farming : AI helps farmers grow crops efficiently by predicting yields and detecting pests. Farmwise uses AI-powered robots to remove weeds without chemicals, making farming eco-friendly.

5. Better Waste Management : AI sorts recyclable materials and reduces landfill waste. Waste Robotics uses AI to separate recyclables from trash, improving recycling.

6. Protecting Water Resources : AI tracks water usage and quality, reducing waste. Ocean Cleanup uses AI to find and collect plastic from the ocean, keeping marine life safe.

7. Fighting Climate Change : AI studies greenhouse gases and weather to help reduce pollution. IBM's AI improves weather forecasting and climate modeling to predict environmental changes.

8. Saving Wildlife : AI tracks animals and their habitats to help protect them. Conservation International uses AI to monitor biodiversity and keep ecosystems safe.

AI Agents In Education :

Shaping the Future of Learning in India

At OMOTEC, we believe in pushing the boundaries of STEM, and our students have done just that! After stellar performances at the FTC India Championship and the Kazakhstan Central Asia Championship, our teams have secured their place at the FIRST World Championship in Houston, USA!

Personalized Learning – Every student, their own pace

- AI-powered lessons adapt to how each student learns, offering instant feedback.
- Struggling with a tricky topic? AI breaks it down and provides extra resources.
- Virtual tutors step in to guide students, especially those preparing for competitive exams.

AI for Teaching & Assessments – Less paperwork, more teaching

- Automated grading takes care of multiple-choice and even written responses.
- Teachers can focus on mentoring while AI handles routine assessments.
- AI-driven insights help identify learning gaps and support student progress.

Smarter School Administration – More time for what matters

- No more attendance calls – AI tracks attendance seamlessly.
- AI helps schedule classes efficiently, ensuring smooth timetables.
- AI-generated reports give schools better insights into student performance.

AI for Student Engagement – Learning that is engaging and feels Like play

- Interactive quizzes and AI-powered games make studying fun.
- Virtual labs let students experiment, no fancy lab equipment needed.
- Engaging multimedia content keeps students curious and excited to learn.

Challenges & Considerations – Balancing tech & human touch

- Bridging the Digital Divide – Not all schools have access to AI tools, creating gaps in education.
- Privacy Matters – AI collects student data, raising concerns about safety and ethics.
- Teachers Are Irreplaceable – AI is a powerful tool, but human educators bring creativity, guidance, and emotional support that no machine can replicate.

The Future of AI in Education

✅ Using AI ethically and responsibly to benefit students.
✅ Ensuring AI reaches every school, not just urban areas.
✅ Empowering teachers and students, making education more inclusive and effective.

AI is here to support learning, not replace the magic of teaching. The future of education isn't just about technology, it's about how we use it to uplift students and educators alike.

CODEAVOUR 6.0
MUMBAI REGIONALS

Kudos to all the young innovators who participated in the **Codeavour 6.0 Mumbai Regionals!** We're excited to announce that **8 AMAZING TEAMS have qualified for the NATIONAL ROUND.** Your hard work, creativity, and tech skills truly impressed us. Best of luck as you gear up to represent Mumbai at the Nationals—go make us proud!

1st Place in Track 1 Senior Category

5th Place in Track 2 Elementary Category

2nd Place in Track 1 Elementary Category

4th Place in Track 2 Elementary Category

1st Place in Track 1 Junior Category

1st Place in Track 2 Junior Category

1st Place in Track 2 Elementary Category

4th Place in Track 1 Elementary Category

CODEAVOUR 6.0 INTERNATIONAL

A big shoutout to all the young innovators who participated in the **Codeavour 6.0 Delhi Nationals!** We're proud to announce that **8 BRILLIIANT TEAMS have qualified for the INTERNATIONAL ROUND**. Your creativity, innovation, and hard work truly stood out. Wishing you all the best as you take your projects to the global stage-go shine!

1st Place in Track 2 Junior Category

2nd Place in Track 2 Elementary Category

3rd Place in Track 2 Elementary Category

1st Place in Track 1 Elementary Category

Consolation Prize in Track 1 Elementary Category

3rd Place in Track 1 Junior Category

Consolation Prize in Track 1 Senior Category

2nd Place in Track 1 Senior Category

OMOTEC
LEARN TECH FOR FUTURE

P R E S E N T S

CODEAVOUR 6.0
PUNE REGIONALS

Innovators of Tomorrow Shine at Codeavour 6.0 Pune Regionals, Organized by OMOTEC

The International STEM Fest, Codeavour 6.0 Regionals, held at Mansukhbhai Kothari National School, brought together 58+ student teams solving real-world problems using AI, AR-VR, Robotics, and Coding with PictoBlox. OMOTEC proudly organized the Pune edition, spotlighting innovation and young talent.

Winners

- **Track 1 :**
  - Elementary : CM International School
  - Junior : DPS Hinjawadi
  - Senior : DY Patil

- **Track 2 :**
  - Elementary : New Pune Public School
  - Junior : Team Tech Coder

Special Thanks to the Kothari Group, OMOTEC team, and judges for their support and mentorship. With such innovation, the future is in great hands!

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