

# *A Brief Report*

*on*

# *Living with AI*

*Organized*

*By*

***ST. XAVIER'S COLLEGE, RANCHI***

***&***

***XAVIER'S TECHBYTE SOCIETY***

*In Collaboration With*

***IQAC & PRAYOG INDIA***

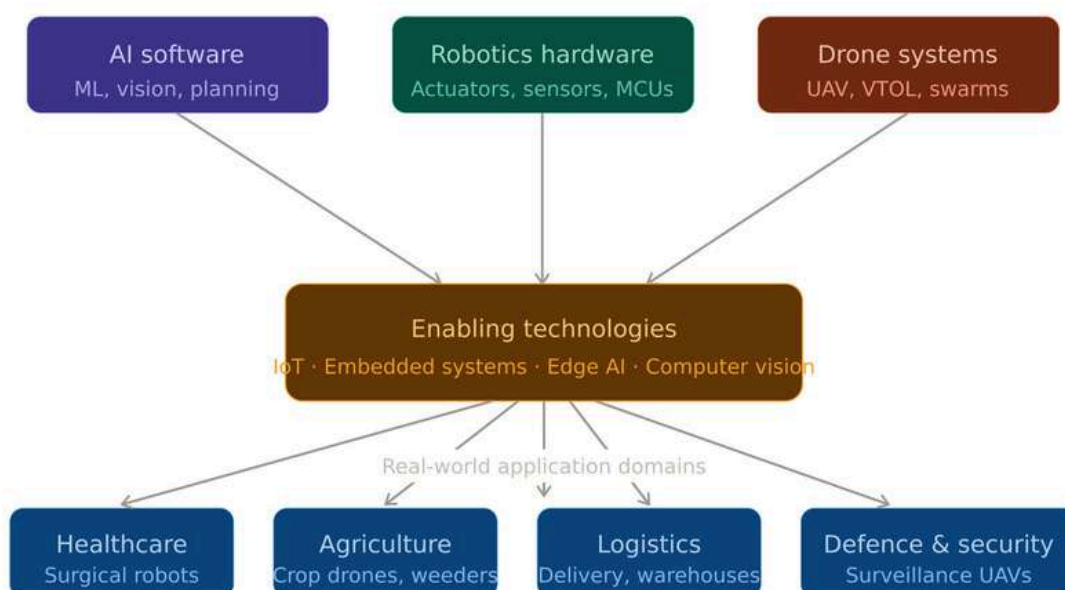
**PRAYOG INDIA**  
*The World of* **ROBOTICS**

- ***Name of Partner Organisation -***  
*IQAC & PRAYOG INDIA*
- ***Title of the Activity -***  
*Living With AI*
- ***Activity Details Nature of Activity/Event -***  
*One Day Workshop on AI & Robotics*
- ***Date - 13/04/2026***
- ***Venue - Fr.De Brouwer Auditorium***
- ***Chief Guest/ Main Speakers -***  
*Mr. Enamul Hassan*  
*Mr. Md. Shahnawaz Abbas*  
*Mr. Emran Hassan*

# ***Living with AI: A Discussion on Robotics, Artificial Intelligence, and Drone Technology***

The convergence of Artificial Intelligence (AI), Robotics, and Drone Technology represents one of the most transformative technological shifts of the twenty-first century. A seminar of this nature – hosted in an academic environment and led by practitioners from Prayog India, an organization deeply embedded in AI, Robotics, Embedded Systems, IoT, and Drone Technology – provides an invaluable opportunity to examine how these technologies are not merely theoretical constructs, but lived realities reshaping human civilization.

It is critical, at the outset, to draw a foundational distinction: AI as software refers to algorithms, machine learning models, and data-processing systems that simulate intelligent behavior. Robotics refers to physical, hardware-based machines that interact with the real world. The intersection of both – where AI acts as the "brain" and robotics as the "body" – is where the most profound breakthroughs are occurring.



## ***The Future of Robotics in AI and Drones: Emerging Trends and Autonomous Navigation***

### ***a. Autonomous Navigation***

Perhaps the most visible frontier of AI-robotics convergence is autonomous navigation — the ability of a machine to move through an unstructured environment without human teleoperation. This encompasses ground robots, underwater vehicles, and most prominently, drones.

Autonomous navigation relies on a stack of AI subsystems:

Perception — sensors (LiDAR, stereo cameras, ultrasonic) feed raw data about the environment. AI processes this into a structured map using algorithms like SLAM (Simultaneous Localization and Mapping).

Planning — given the map, AI computes an optimal path to a target while avoiding obstacles. Modern planners like RRT\* (Rapidly-exploring Random Tree) are being augmented with neural networks that can anticipate dynamic obstacles (pedestrians, vehicles).

Control — the planned trajectory is translated into precise motor commands by low-level controllers, often running on the embedded systems that engineers like those at Prayog India specialize in.

### ***b. Drones: From Remote-Controlled to Fully Autonomous***

Drones represent a microcosm of the entire AI-robotics revolution. Early UAVs (Unmanned Aerial Vehicles) required skilled human pilots with line-of-sight operation. Today's generation of drones — and the next generation being actively researched — operates on fundamentally different principles:

Computer vision-based obstacle avoidance allows drones to fly at speed through forests or buildings, processing camera feeds in real time to detect and evade obstacles faster than any human pilot could react.

Swarm intelligence is one of the most exciting emerging trends. Drawing inspiration from natural systems like bird flocking and ant colonies, swarm drone systems deploy dozens or hundreds of small drones coordinated by decentralized AI. No single drone holds the complete mission plan; each makes local decisions based on its immediate neighbors and environment, yet the collective achieves a coherent global objective. Applications range from coordinated agricultural spraying to military reconnaissance and disaster search-and-rescue.

BVLOS operations (Beyond Visual Line of Sight) are the regulatory and technical frontier for commercial drones. Enabling safe BVLOS requires AI systems capable of air traffic deconfliction — essentially, giving drones the situational awareness to share airspace with each other and with manned aircraft.

Prayog India's focus on Drone Technology alongside AI and Embedded Systems places them squarely at this intersection — their work on real-time project exposure for students is practically developing the engineers who will build these next-generation systems.

### ***c. Humanoid Robotics and General-Purpose AI***

Beyond drones, the broader trajectory of robotics points toward general-purpose humanoid robots. Systems developed by leading global laboratories are now capable of bipedal locomotion over rough terrain, manipulation of previously unseen objects, and even rudimentary task-following from natural language instructions. Large language models (LLMs) are being integrated into robot control systems, allowing a user to instruct a robot in plain English rather than code. This represents a paradigm shift from specialized industrial robots to adaptable, household-ready machines — a transition that is likely to materialize within the next decade.

## ***Impact and Ethics: The Societal Implications of AI and Robotics***

A workshop like "Living with AI" is appropriately named — because these technologies do not exist in a laboratory vacuum. They are already living with us, and their proliferation demands rigorous ethical examination, particularly in an academic setting where future engineers are being formed.

### ***a. Economic Disruption and Employment***

The most immediate societal concern is labor displacement. Automation has historically disrupted specific sectors (manufacturing, data entry); AI-powered robotics threatens a wider class of tasks, including those previously considered cognitively complex. Radiology, logistics, customer service, and precision agriculture are all undergoing automation. The ethical obligation of institutions like XTS and organizations like Prayog India is not merely to develop these technologies, but to help students understand the economic transitions they will participate in — and to advocate for reskilling ecosystems that prevent technological benefit from accruing only to those who own the machines.

### ***b. Autonomous Decision-Making and Accountability***

When an autonomous drone makes a navigation decision that results in harm, or when a surgical robot encounters an unanticipated complication, who bears legal and moral responsibility? This question of accountability in autonomous systems remains one of the most vexed problems in AI ethics. The concept of meaningful human control — ensuring that humans retain decision-making authority in high-stakes situations — is central to responsible deployment of these technologies. In defence applications particularly, the prospect of lethal autonomous weapons systems (LAWS) that select and engage targets without human authorization has prompted significant international concern.

### ***c. Privacy and Surveillance***

Drones equipped with high-resolution cameras and AI-powered facial recognition capabilities create powerful surveillance platforms. While applications in disaster response and infrastructure monitoring are clearly beneficial, the same technology can be — and has been — deployed for mass surveillance of civilian populations. Academic institutions discussing these technologies have a responsibility to frame technical capability within a rights-based discourse: the question is not merely "can this be built?" but "under what conditions should it be deployed, and who governs that decision?"

### ***d. Accessibility and the Digital Divide***

Advanced robotics and AI systems are, for now, resource-intensive to develop and deploy. Ensuring that the benefits of these technologies — improved healthcare through robotic surgery, higher agricultural yields through precision drone farming — are accessible globally, rather than concentrated in wealthy economies, is a fundamental equity concern. The educational mission of initiatives like this seminar is itself a partial answer: producing technically literate graduates across diverse regions democratizes the development of these technologies.

## Conclusion

The "Living with AI" seminar embodies a crucial pedagogical moment. The speakers—practitioners actively building AI systems, autonomous robots, and drone platforms—bring the realities of these technologies out of textbooks and into the room. The synergy between AI's intelligence and robotics as physicality is not a distant future prospect; it is the present reality of workshops, warehouses, operating theaters, and agricultural fields.

For students of computer science, engaging seriously with robotics and AI means understanding that code has mass, momentum, and consequence in the physical world. The engineers who bridge software and hardware—writing the embedded firmware that makes a drone hover, the vision pipeline that helps a robot grasp, the control algorithm that keeps an autonomous vehicle on the road—are not merely technologists. They are, increasingly, architects of how the physical world operates.

The ethical dimensions discussed above are not external constraints on this work; they are integral to doing it well. An engineer who does not understand the societal implications of what they build is technically incomplete. That is precisely what a seminar like this—pairing live demonstrations with expert insight in an academic setting—is designed to remedy.

# PHOTOS



