AI in 21ˢᵗ Century

Session 13

Artificial Intelligence
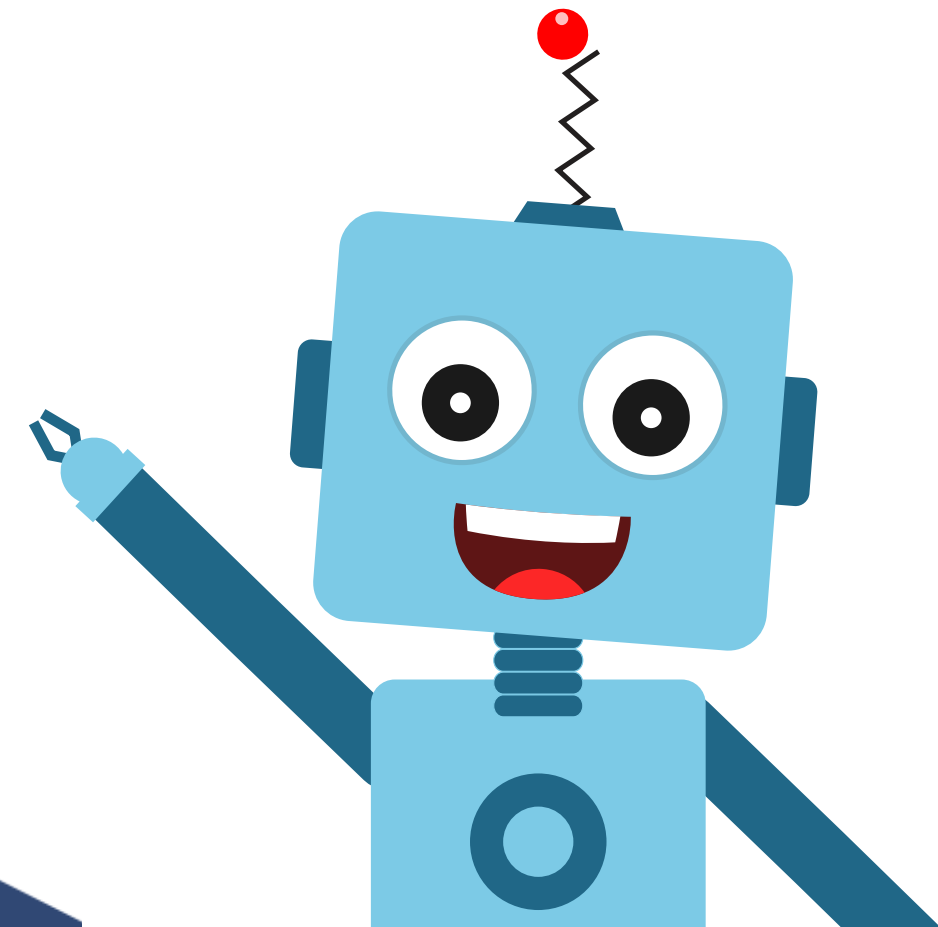
- **Artificial Intelligence** has now been **ingrained in today's society**.

- It has **applications ranging from web searching to surfing social networking sites**.

- Artificial Intelligence is undeniably **changing the productivity and workflow of a variety of sectors** throughout the world.

- In this lesson, we will talk about **how AI is impacting our lives**, **how does it help in building smart cities**, **and what will be the future of AI**.

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Topics Covered in this Lesson

1) How AI is shaping Smart Cities

2) AI as a career option, and its future

3) AI's Contribution to National Building & Development

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Key Learning Outcomes

At the end of the lesson, you will be able to:

1) Gain an awareness of **where Artificial Intelligence is relevant in your own lives.**

2) Correlate with the real-world applications of AI to **generate an AI mindset**.

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1) **Security:** Security cameras that use AI have the ability to **analyze footage in real-time and detect criminal behavior** which can then be instantly reported and dealt with.

2) **Maintenance:** AI can be used to **analyze road imagery to then assess issues** and produce cost-effective solutions.

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3) **Predicting Future Needs:** Better prediction of future needs of the people Ex: Using **energy tracking technology** to know:

- When new energy sources will be needed, or
- What more sustainable energy sources can be implemented.

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4) **Controlling Pollution:** Using AI and machine learning to **analyze the current pollutants and predict the pollution levels** for the next 2 hours. This type of technology **allows authorities to make decisions in advance** to reduce their effect on the environment.

5) **Parking Systems:** Using **license plate recognition technology**, car parks are able **to detect cars that have outstayed hours**, this can also enforce payments and tickets.

6) **Public Transportation:** Public transport users can **receive and access live updates and tracking**, this would improve time saving and customer satisfaction.

Automated buses can also be planned to be used within cities, these can **reduce emissions, improve routes, and increase the bus frequency.**

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7) **Waste Management:** Smart waste management using AI will **allow cities to track recycling, and identify what can be recycled**, based on the type of waste produced in each area.

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8) **Traffic Management:** AI implementation in transportation can **reduce traffic and road accidents**. AI can also be used **throughout traffic camera systems to detect road crimes in real-time**.

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9) **Environment:** AI can be used to **track the local environment, ex: temperature, rain, pollution levels etc.** This can allow the authorities of the city to make well-informed decisions that are best for the environment.

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AI as a Career Option and Its Future
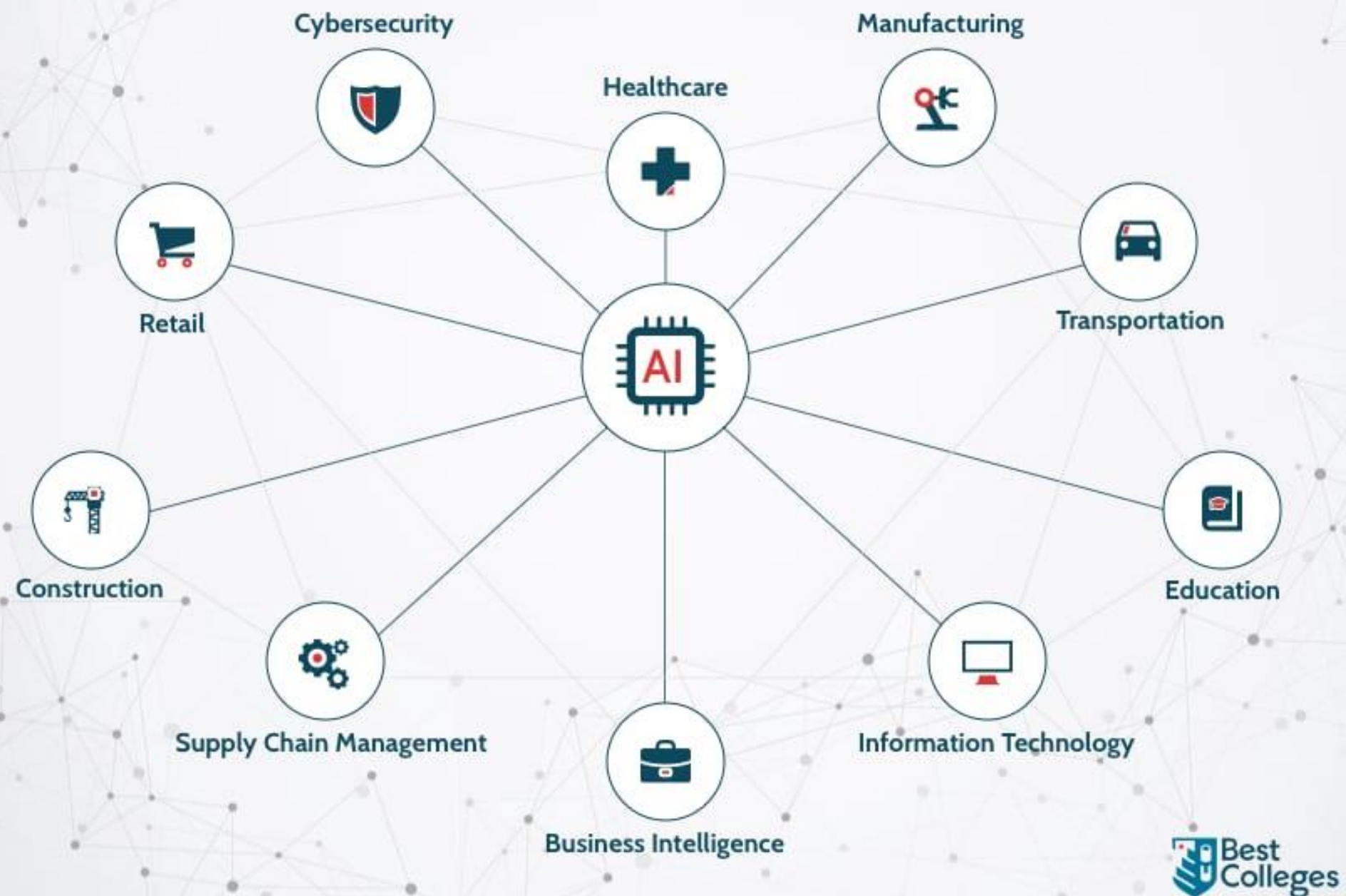
1) Artificial intelligence **will transform the global economy**, and **AI jobs are in high demand.**

2) Getting an **education in AI is challenging** and requires persistence and personal initiative.

3) All **AI careers are future-proof**, meaning they are likely to survive well into the future.

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Starting a Career in AI

- Self-driving cars, robotic assistants, and automated disease diagnosis are all **products of an emerging AI revolution** that will reshape how we live and work.

- There are **limitless opportunities for professionals** who want to work on the cutting edge of AI research and development.

- AI will be a great transformer, it will **improve the efficiency of many sectors**, and enable the creation of higher-value services. This can **lead to overall economic growth.**
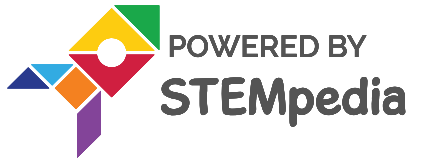
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Getting an AI education

- AI has a high learning curve, but for motivated students**, the rewards of an AI career far outweigh the investment of time and energy.**

- **Curiosity, confidence, and perseverance** are good traits for any student looking to break into an emerging field, and AI is no exception.

- A good place to start is **computer science coursework**, getting familiar with the basics of data science, machine learning, and Java.

- There are **a number of new undergraduate and graduate programs** popping up every day that are designed to prepare someone specifically to work in AI.

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Industries impacted by the AI revolution.

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- **Artificial Intelligence** is becoming a **new wave in global politics**, and it is going to play **a pivotal role in power dynamics** among nations.

- Many countries are investing massively in the advancement of this technology, and it has become **an important aspect of economic, defense, and foreign policy.**

- The usage of AI is not limited to Information Technology (IT). **Breakthroughs in Machine Learning**, that engages in 'deep learning' and the 'advancement of computer systems' has gone beyond IT and expanded to **health, education, defense, art, and social sector**.
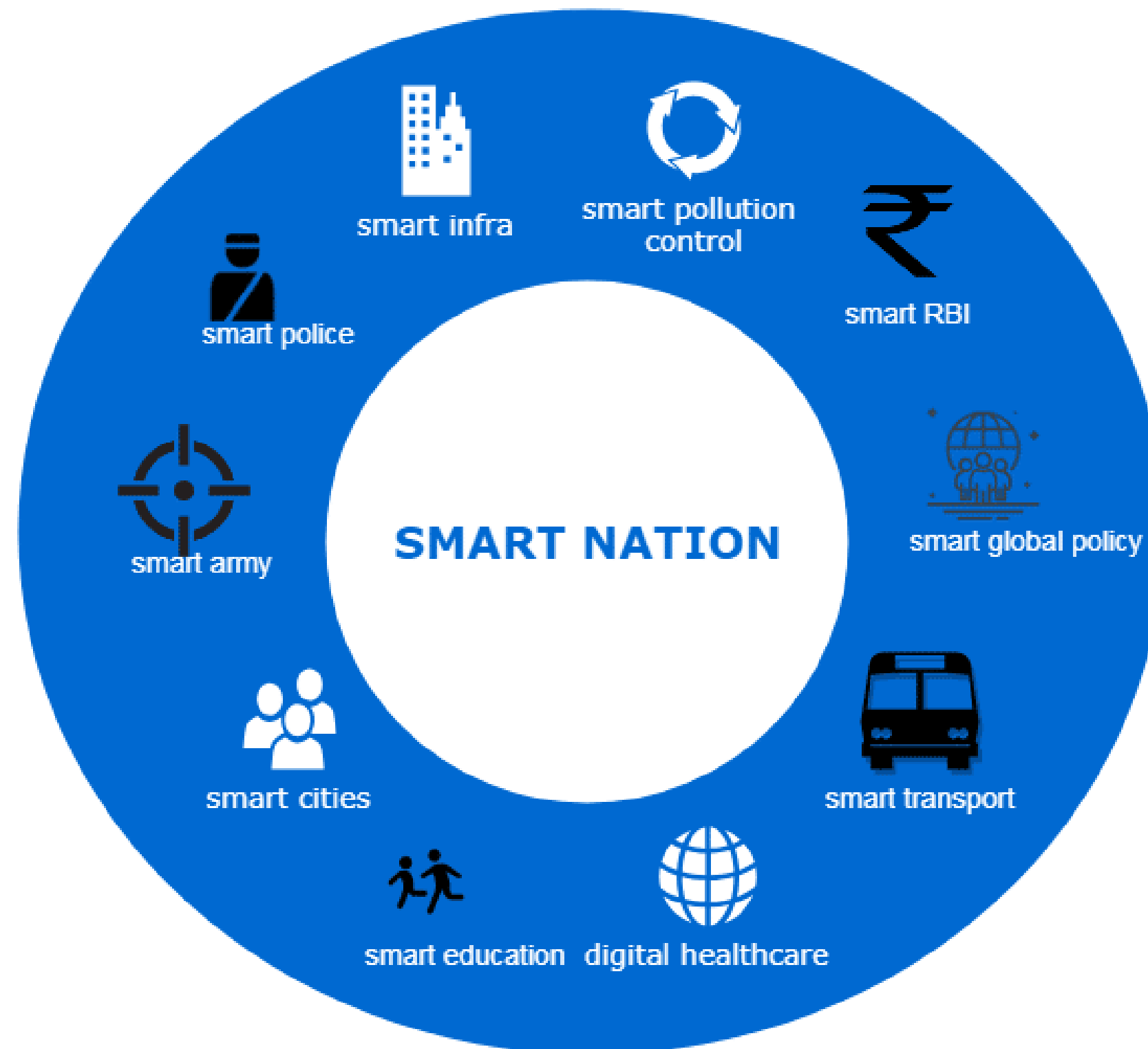
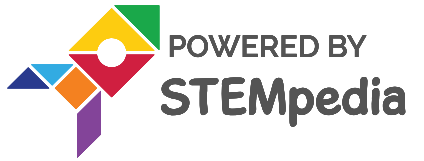www.ai.thestempedia.com

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- Artificial Intelligence can be a **game-changer for the nation-building process**.

- We can achieve our goal of socioeconomic change that **empowers everyone** to lead life to the fullest possible using AI.

- **NITI Aayog is also trying to use AI** for creating insightful policy-making processes.

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Role of Artificial Intelligence for a Nation

smart infra

smart pollution control

smart RBI

smart police

SMART NATION

smart global policy

smart army

smart cities

smart transport

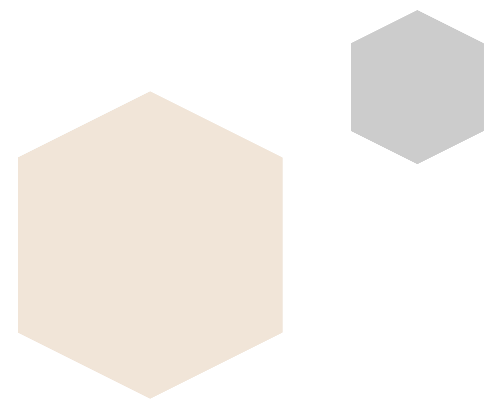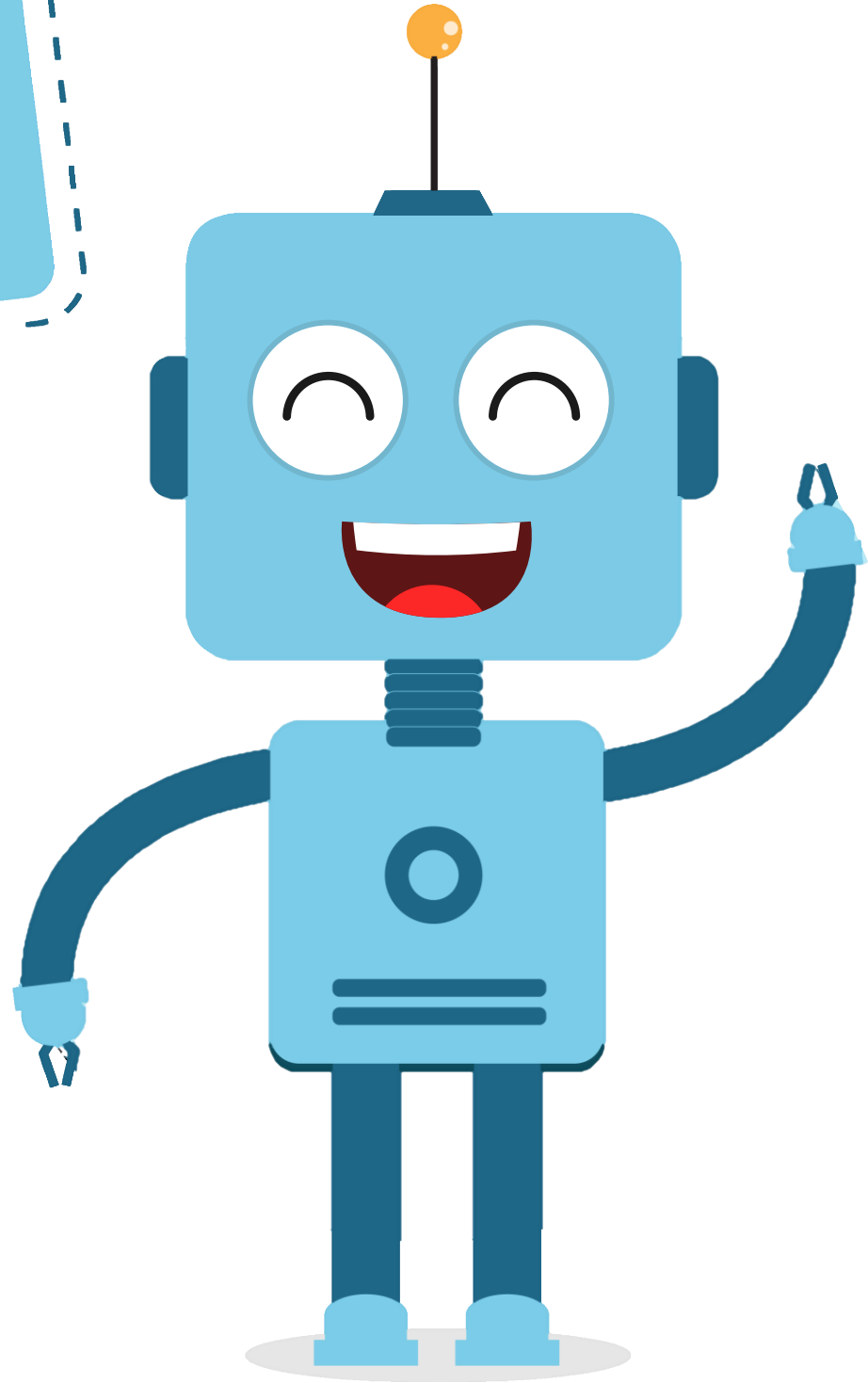smart education   digital healthcare

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National Building & Development using AI

- Many countries such as the United States, China, Israel, Canada, EU member countries, and Japan promote AI and have made it **an integral part of their economy, security, and defense sector**.

- In India, AI has been **mostly used by Industries and corporates** (like Amazon, Flipkart, SymphonyAI, etc.), and the expertise of AI is mainly in a few hands (mainly technocrats).

- Hence a huge potential, lay unexplored in India in the field of AI.

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