Machine Learning in Medical Science:

- Machine learning is a part of artificial intelligence, whereas AI is a huge ocean.
- Machine learning is the one which focuses on the development of computer programs that will take the data as an input and it use it to learn for themselves.
- Machine learning will be used in many of the fields like,
    - ✔ Medical field
    - ✔ Robotics
    - ✔ Neuroscience
    - ✔ Aerospace
    - ✔ Weather forecasting
- Actually, Machine learning works good and effective in the presence of huge data.
- However, now a day's medical science is yielding more amount of data from research, clinics, patients etc. By using this collected data/information we can improve healthcare infrastructure and treatments.

Application of Machine Learning:

- ❖ In Diagnosis/Diseases identification.
- ❖ AI-powered robots assisting surgical operations.
- ❖ Clinical trial research.
- ❖ Personalized treatment.
- ❖ Drug Discovery.
- ❖ Radiology and Radiotherapy.

In Diagnosis:

- Medical care begins with a diagnosis and machine learning is the one which will learn from the old data and it can diagnosis this results in devising better methods of disease identification.
- Diagnosis an image, whereas traditional image analysis is time-consuming (that are MRI scan, x-rays) whereas MIT-LED team of researches has found a solution in the form of a machine learning algorithms that can conduct image analyses.

AI-powered robots assisting surgical operations:

- Da Vinci – The most advanced robot for surgical operations and heartland-which does exactly what name suggests are in action performing and assisting in the complex eye and heart surgeries respectively.

Personalized treatment:

- Personalized medical care is a bit of a luxury, reserved for those who can afford it.
- The application of predictive analytics in disease assessment and management hardly requires any underscoring.
- supervised learning, this approach enabled physicians and doctors to select the right diagnosis from a limited original set of possibilities, based on the genetic information of the patient.

Clinical trial research:

- Advanced predictive analysis in identifying candidates for clinical trials and Remote monitoring and real-time data access for increased safety biological and other signals for any sign of harm or death to participants.
- Addressing and adapting to differences in sites for patient recruitments using electronic medical records to reduce data errors.

Radiology and Radiotherapy:

- ML has the potential to revolutionize the field of radiation oncology we review the radiotherapy process from a workflow perspective.
- DeepMind Health is working with University College London Hospital to develop machine learning algorithms capable of detecting differences in healthy and cancerous tissues.

Drug Discovery:

- ML plays an active part in sorting through the immense amounts of biochemical data accumulated from high throughput sequencing techniques, it makes drug discovery more efficient.