**Artificial Intelligence in Healthcare and Medicine: Promises, Ethical Challenges and Governance**

**Introduction:**

***Artificial Intelligence* is the force that reinforce industries and it has a big role in society including medicine. it was invented in 1955 by john McCarthy and is defined as "the science and engineering of making intelligent machines ".**

**The concept of AI means that use machines and computers to model intelligent behavior with A little human intervention .it has appeared with the invention of robots and the art of Da Vinci's about robots help to establish the way for this invention and is considered an inspiration to many researchers in the robot.** **Over the last decade, AI has been applied to different areas such as search engines, machine translation systems, and intelligent personal assistants.**

**In 2014, IBM announced a TrueNorth chip which consider industrial revolution in AI filed because it has ability to give machines and computer some of the Human brain-like abilities. governments worldwide made plans and designed strategies pertaining to AI application.** **The NG-AI Plan is the best national AI strategies, with not only goals for research and development and industrialization, but also standard setting and ethical norms, and security.**

**APPLICATION OF AI:**

**In general, Ai in healthcare and medicine can be divide into three main branches virtual, physical and combination between virtual reality and robots.**

**1) physical branch:**

**It can represent by robots which are used to help patients and assist doctors like Surgical robots,** **Robot moxi, The Xenex Germ-Zapping Robot.**

**Surgical robots like A surgical system made by the American company Intuitive Surgical was named Da Vinci in recognition of his inspirational impact on this field**

**2)virtual branch:**

**Virtual AI via machine learning is a subset of AI and refers to a set of methods that can detect patterns in data automatically like Virtual Nursing Assistants**