Essay

Artificial Intelligence:

Pros And Cons

Outline

(1) Introduction
Thesis statement

Artificial intelligence, which replicates certain aspects of human thinking and behaviour, plays a significant role across various fields including automation for economic growth, space surveillance, data mining for good governance, combating climate change, enhancing judicial processes and revolutionizing education. AI also poses significant risks such as the decline of human creativity, rising unemployment, cyber warfare threats to national security and corruption in democratic systems

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Red annotations:

Your arguments are fine but using technical words o AI Data mining or Microbats

Overall, points air ohkay but adopt a more formalized language Secondary there is specific place for quotes and evidences in body paragraph quote these evidences there rather tha at the end of paragraph
Keep it in your mind this is not GSA paper focus on your argument rather than information
Use transitional devices to bring coherence in your paragraph
Work on your conclusion as well

Too lengthy thesis statement
Bring brevity in your ideas

(II) Pros Of AI.

(i) **Massive automation in manufacturing yards and its results in the form of economic boost**

a) BMW" agreement with Open AI for humanoids
b) New jobs in machine learning and deep learning
c) Crypto-Currencies and revolution in banking system

(ii) **Space surveillence through sattelites and their uncountable survices for humanity**

a) Remote-sensing sattelites: eyes on Our planet Earth
b) Asteroid mining, geotagging and geo-fencing; new techniques for extraction of natural resources

(iii) **Data mining, a lending hand for good governance**

a) Sifting and sorting of data, by Complex algorithms for policy making

b) Use of scanning technology for electoral Process

c) Land record management in Punjab

(iv) <u>Fighting against climate change through artificial gadgets and tools</u>

a) Carbon tracking system and Carbon quenching for the reduction of green house gases

a) The digital agricultural revolution and 'Precision farming'

c) Space-based solar power and use of nano-technology for green energy

(v) <u>Microbots and their services for the healing of human kind</u>

a) Use of nano-motors for Bone-Marrow Transplant (BMT)

b) 'The First Cell' by Dr Azra

c) Genetic replication and Bio-Printing through 3-D Printers

(vi) Penetration of artificial network in judicial proceedings and their positive role for speedy justice

a) Forensic genetics - A scientific aiding agent for investigation process

b) E-lawers, E-judges and E-Courts - the new comers in judiciary

c) Safe city projects for elimination of criminal activities

(vii) Digital regimes and new ways of learning

a) Changing mechanism of classrooms in the 21st Century

b) Bots as teaching assistance in Japan

c) E-books and E-libraries - the new normals

The flip side of AI

(i) Generative AI and the death of Creativity

a) Chat-Gpt and the demise homework
and education

b) The dictatorship of the like Culture-Nexus

**(ii) The advent of digital hands and
the rising fear of unemployment**

a) Job termination because of massive automation
in industrial system

b) Replacement of physical teachers
doctors and lawers with their E-competitors

**(iii) 'Cyber warfare': a new episode of destruction
and undone**

a) Algorithmic takeover and cyber theft
b) Digital anarchy and cyber vendalism
in the form of logic bombs
c) Code war and cyber terrorism

(iv) A threatened future of national security

in the presence of digital soldiers, bot spies and pilotless aircrafts

a) 'Maritime espionage' and 'swarm bots'

b) Hacking of sensitive data and gross violation of state'' sovereignty

(v) **Big data – A new oil for imperial powers**

a) Digital Colonization of Big Five such as Alphabet, Amazon, Apple, Meta and Microsoft

b) The Silicon Curtain: Global Empire or global split

(vi) **Psychological analysis through neural network and its repercussion on democratic system**

Example: Electoral manipulation in Cambridge Analitica Case

(vii) Excessive Penetration of labour-saving machines and their negative impacts on individual life

a) Loss of attention span and entry of 'Hurried Culture'

b) Personal identity theft and end of privacy

c) Overuse of apps and lethargic behaviour of humans

(v) **Conclusion**

The Essay

Mark Zuckerberg, CEO of Facebook said

" We are entering a world where we will learn to co-exist with AI, not as its masters but as its collaborators"

Artificial intelligence is an electro-mechanical mechanism which works like a human being. Just like human beings it has all the senses such as hear, sight, touch and taste. Its working mechanism is data intake, data processing, data simulation, and decision making through logical reasoning. It has different types such as Narrow AI (For example Alexa or Siri), Super AI (Hypothetical) Reactive Machines (IBM" Deep Blue), Limited Memory, Theory of Mind, Self-aware AI (futuristic level)

It **helps** in various fields such as automation of economic growth, space survillence, data mining for good governance, combating climate change, enhancing judicial processes, healing of mankind". It also has **negative impacts** on an indivisual" life and on society such as decline in human and creativity, rising unemployment, Cyberwarfare, a threat to the national security and corruption in democratic system.

Massive automation in manufacturing yards has revolutionized the industrial production, leading to significant economic growth By replacing manual labour with advanced machines. Companies have greatly increased efficiency, Precision and output **For example** **in January** **2024 BMW** did an agreement with **Open AI** for the production of

humanoids. According to this agreement

Mark Zuckerberg in his book "THE BOY BILLIONAIRE" said

"If your business is not digitalized; your business is out of business"

It was the first time in mid 2024 that BMW Group Plant Spartanburg used humanoid robots in Production. Board Member of Production with BMW said "we are going to accompany this technology from development to industrialization" AI might help Create new jobs in different ways. Instead of humans Competing with AI, they could focus on servicing and leveraging AI For example in 2015, in war between US and Syria, the US

Air Force lacked sufficient trained humans to fill the positions in Reaper drones flying over Syria, and therefore faced an ironic crisis in manning its unmanned aircrafts. In the same way AI helps u in **Crypto-Currencies** and **revolutionizing** the **banking system**. These currencies works on the principle of **Block chain Technology**. This technology has some useful features such as **Decentralization**, **Immutability** and **Transparency**.

Artificial intelligence also serves the humanity by continuously monitoring the Earth with the help of space satellites. They helps in weather forcasting, environmental monstoring and disaster management. Orbiting high above the earth these remote-sensing satellites collect valuable data through sensors that detect different forms of

energy such as light, heat. These are basically **"Eyes in the Sky"** So, the world is advancing very fast in the field of Aartificial intelligence.

Jeff Bezos, Founder of Amazon said **"The Pace of Progress in Aartificial Intelligence is very fast"** In **1957** during the Cold war between **US** and **USSR** spau race started. In **1978** **US** launched his first satellite system **GPS**. In **1982** **Russia** launched **GLONASS**. In **2000** **China** deployed **BeiDou** into the orbit. **India** launched **IRNSS** in **July 2013**. **Pakistan** launched **PRSS-1** in **July 2018**. AI Asteroid mining, geo-tagging and geo-fencing are the techniques used for extraction and management of natural resources. Asteroid mining is now being explored

as a future solution to Earth's depleting mineral resources. Geo-tagging allows precise identification and mapping of resource - rich areas using satellite data and GPS technology. Geo-fencing creates a virtual boundary to monitor and control movement and enhancing security. **Gold**, **Osmium**, **Platinum** and **Plutonium** are abundantly present on 'Asteroid' near Earth. To bring all these metals back scientists are launching various missions. **For example** **India** made a soft landing of 'Chanrayaan-II' on the moon. In **2013**, they also launched 'Mars Orbiter Mission'. Once these metals discovered, robots will be deployed for extraction, packing and landing these metals on our Earth.

        Data mining serves as a powerful tool for promoting good governance by enabling government to make informed, transparent and efficient

decisions. Pakistan's governance system is persistently facing issues such as _____ identity records, election fraud, corruption and opaque financial system (Dawn news). Pakistan ranks 140th out of 180 countries (Transparency International Corruption Index 2024). Officials in Federal Finance Ministry removed dissent note from the document outlining 1.25 trillion in contingent liabilities in 2018. Thus data mining strengthen public accountability by identifying corruption risk. In the age of digital governance, the sifting and sorting of data by complex algorithms has become a crucial process for effective policy making.

Michael Bloomberg, former Mayor of New York City said

" **Without good data, you are flying blind; if you**

Can't see it, you Can't solve it "

The use of scanning technology in electrol process has revolutimized the way votes are Casted, Counted and verified. Now a days fair, free and Transparent elections are Conducted by using **EVM**'s which ultimately leads to robust democracy. **India** used these electronic voting machines first time in **1982**. Then it is used in **2004** in **General Elections**. **Brazil** used EVM's in **1996** in muncipal elections. Then it is used in **2000** nationwide. In the some way **USA** used this technology first time in **1964** in **Georgia**, electronic **Punch Cord system**.

AI technologies, such as machine learning and image recognition, are used to digitilize digitize old records, detect fraudulent enteries

and resolve boundary disputes using Geographic information system **(GIS)** In provinces like **Punjab** and **KPK Land Record Management System (LRMIS)** is being upgraded with intelligent automation to ensure and secure land record.

AI tools are increasingly being used to combat climate change being enabling smarter, faster and more precise decision making. Machine learning algorithms analyze vast climate data to improve weather forcasting and predict the impact of extreme weather/events like floods and wildfires.

Fei-Fei Li - AI Scientist said

" **AI** is not just about robots or automation - it has the potential to become a Key weapon in fight against climate change, helping us to see, understand,

respond faster than ever before."

AI is being used in Carbon tracking system and Carbon quenching for the reduction of green house gases. **For example Mei Shaon Coke dry Quenching Project of China** has CO_2 sensor which detect CO_2 quantity in air and provide us data. After capturing CO_2 it is Converted into $CaCO_3$ or Concrete which ultimately reduces green house gases.

Artificial intelligence has revolutionized the agriculture system and Precision forming is being done by this technology. **Farming drones** helps us in Crop monitoring and **Soil Sensors** are used to Calculate the exact quantity of Pesticides, fertilizers and water which ultimately saves the tracts of lands from salinity and water logging.

Space-Based Solar Power
(SBSP) that involves collecting
solar energy in space, where sunlight
is content and un-interrupted by
weather or atmospheric interference
and then transmitting it to the
Earth using laser beams. **For example**
India launched a space-based
solar mission **Aditya L-1** on
2-sep-2023. It was first time
used to observe the behavior
of chromosphere and corona and
to under solar atmospheric
motion and heating process

AI has paved the
way for revolutionary advancement
in the medical field too Particularly
through the development of **microbots-**
tiny robotic devices designed to
operate inside the human body.
These microbots, guided by AI
Can navigate blood stream
detect abnormalities and trget

treatment accurately. **Nano-motors** are being used in most expensive cancer treatment **Bone Marrow Transplant**. In this process unhealthy cells are extracted from bone marrow and new healthy stem cells are placed. In that complex process nano-motors are life-savers. **Dr. Azra**, a famous oncologist and a genious lady in her book "**The First Cell**" says

" Cancer is only be curable if it is found at stage-I. If You are at stage-IV you are already too late to get rid of it "

Here she suggests for early detection of first cancerous cell. Smart watches and other wearable devices are way forward. According to **Gallop Pakistan (2024)** 70% Pakistani youth is facing

mental health issues such as **Anxiety** and **depression**. For this **Claude** an AI therapy can be used to reduce depression.

Kelly and Zach Weinersmith said in their book **Soonish** that if artificial meat can be produced in laboratories, it opens up the possibility of cloning vital organs such as the heart, liver and Kidney which will be a revolution in medical field.

Artificial intelligence is transforming 'forensic genetics' into a more powerful and precise tool. in the field of criminal ~~activities~~ investigations. AI helps ~~T~~ forensic scientists identify individuals, trace biological relationships and even reconstruct physical appearances from DNA samples. DNA tests, finger prints and psychometric analysis produce scientific evidences

For example, ⅟ in Zainab murder Case and Motorway rape Case Culprits were arrested on the basis of DNA testing.

AI has also replaced on tradcational judicial system with E-lawers, E-judges and E-courts. E-lawers in drafting drafting legal documents. Similarly E-judges, supported by AI, asist in analyzing evidences and even delivering verdicts in minor civil disputes. E-courts provide online platform for filling Cases and attending hearings Estonia used E-judges and E-court fint time in 2000 China used it fint time in 2017. UK and USA have been using E-lawers sin Covid-19 Pondemic. Supreme Court of Pakistan in its ruling in April 2025 mandated AI guidlines for judicial use. Safe City Projects are modern

urban security initiatives that aim to reduce and eliminate criminal activities through the use of surviellence technology. and AI. The projects include installation of high resolution CCTV cameras, facial recognition system and licence plate reader

In the age of digital regimes, AI is transforming traditional education system by introducing an innovative ways of learning. AI based system can analyze students' 'learning style' adapt content to individual needs and provide instant feed back. These technologies support self-based learning and enhance access to quality education across geographical barriers.

Joh Dewey Said

" We should not teach

Our children how the world is
but how it will be. "
He further said,

" Code learning is
the global Curriculum,
learn it and move On. "

AI is revolutionizing the
traditional classroom structure in
the 21st Century by transforming
how education delivered, received
and managed. Intelligent tutoring
system and AI-powered tools are
placing one-size-fits-all teaching
methods. By integrating AI into
Classroom, the education system is
shifting from passive learning to more
interactive form of learning.

AI-Powered bots are
being used in classrooms to support
teachers by handling routine tasks,
like taking attendance, answering frequently

asked questions and providing instant feedback. **For example** in Japan there bots are being used effectively. They gauge the intellectual capability of the students and teach them stem subjects which are Science, Engineering and Mathmatics according to their understanding level.

With the widspread use of smartphones, tablets and E-readers, students and readers now enjoy instant access to vast range of books, journals and study material without restriction of time and place. **According to the report of UNESCO(2023)** digital learning can improve rural education by 35%.

While having so much benefits AI also have drawbacks too and negative impacts on human life. The rapid rise of AI which can produce

art, music, text and even code, has sparked a growing debate about its impacts human creativity. While these tools can enhance productivity and serve as creative collaborators they may lead to the death of originality and genuine human expression. Assignment, Presentation and even final thesis are just one click away but this luxury is hampering mental growth of an individual

In Constructivist Learning Theory

it is stated that Critical thinking and Creativity are backbone of an education system. But unfortunately excessive use of Chat-gpt these Capabilities are gradually declining

Yuval Noah Harari in his book "Nexus"

mentioned that how people are becoming blind followers of due digits. When anything gets viral they aimlessly start following it

which Cause the death of
their imagination.

Yuval Noah Harari in
his book Sapiens said

"Humans risk becoming
emotionally and creatively
irrelevent, replaced by algorithms
that understand us better than
we understand Ourselves."

The rise of automation
and artificial intelligence often reffered
to as the advent of digital hands-
that transformed industries by
making tasks, faster, cheaper
and more efficient. However this
technology has also sparked
a growing **fear of unemployment**
While digital technologies Promise
Progress they also Pose a serious
threat to tradational jobs
especially for low skilled and

routine-based workers

Warren G. Bennis said,

" The factory of the future will have only two employees, a man and a dog. The man will be there to feed the dog. The dog will be there to keep the man from touching the equipments. "

Thes rapid advancement of artificial intelligence and digital technologies is leading to the gradual replacement of traditional roles such as teachers, doctors and lawers by their virtual counterparts. E-teaches now deliver their lecture through online platform and asses the assignment accordingly. Similarly telemedicine and AI-driven diagnostics are reshaping the role of doctors. E-lawers and legal bots

are being used to review contracts
and offer legal advice.

Farid Zakria said

" When you grow up you
might not have job because
your E-competitors are so efficient
and smart that they can
easily kick you out from the
competition. "

Cyber warfare, has
emerged as a new frontier in modern
wars, where battles are no longer
confined to land air of sea but are
fought through lines of code and digital
system Algorithms now govern everything
from financial system and social media
to national defense and health care.
However their misuse can lead to
severe consequences including data
breach, identity theft and large scale
financial loss

Cyber theft, well whether through pishing or AI driven tools has become a multidollar industry. **For example Spyeye** which is being used in personal identity theft, ATM scanning and pishing

George Seigl says

"*Innovations brings change and With it new opportunities to commit crimes*"

Logic bombs

Torjan horses are designed not just to steal or disrupt but also cause maximum chaos often silently embeded in sensitive systems. Logic bombs are hidden piece of code that activates only under specific conditions or specific command. Trojan horses are a kind of software that allows hackers to access to the sensitive system where they can steal data or they can erase it

Both are used for Cyber stocking, Cyber bullying and Cyberspine.

Cyber terrorism involves the deliberate use of computer networks to attack critical infrastructure of an other Countries. **For example** in **Operation "Outside the box"** in 2007 Israel attack on suspected nuclear reactor in Syria. **For example** **"Stuxnet"** was the first digital weapon that was used by Israel to destroy Iranion nuclear centrifuges with a computer bomb.

The future of national security stands at the crossroads, increasingly threatened by the rise of **digital bots, pilotless aircrafts** or **drones**. In this modern and digital world, a major threat to the national security is the use of **maritime espionage** and **swarm bots** in order to dominate one naval army

Over the other and o also used in ocean surveillance. There are a number of examples where **Russian navy** and some other countries have engaged **dolphins** and **whales** for naval surveillence **For example** in 2019 Norwegian Coast Gaurd suspectedly observe a **Beluga** whale which later reveal out to be a **Russian Spy**.

Hacker used artificial intelligence as a tool for breaching the state sovereignty and stole the data containing sensitive information **Yuval Noah Harari** in his book '**Nexus**' revealed mind-boggling facts that in 2014-15 Pakistani Cellular companies handed over the data of **55 million** people of Pakistan to **CIA** and **US National Security Agency**. They tested the behaviour of people of Pakistan

through an **AI app** 'Skynet'. Those who are marked suspected by that app were ruthlessly murdered by **CIA** through a secret operation.

In this modern era, **big data** has emerged as the new oil for countries. This is the powerful resource to fuel economic, political and Technological supremacy. Jus as Oil empowered colonial empires in **20th century**, data now empowers digital empires in **21st century**. In the modern world digital colonization is not carried out through armies or worships but through big data centres. The so called **"Big Five"** - tech giants **Google, Amazon, Apple, Meta** and **Microsoft** have become digital empires and have an unprecedented control over information

Commerce, Communication and even human behaviour.

Yuval Noah Harari in his book **21 Lessons for the 21st Century** said that the **19th** Century belongs to those states which control the big tracts of land, **20th** Century was dominated by those states which established big industrial empires but the dynamics of **21st** Century have changed completely. This is the Century of data. **Those who owns the data own the future**. Thus data Colonism is widening the gap between have or have not.

In 21st Century, the world is witnessing the rise of new divide — not made of iron but of **silicon, data and algorithms**. The "Silicon Curtain" refers to the emerging digital

boundary separating technological superpowers particularly **US** and **China**. On one side there are **Western-led** platforms like **Google, Apple, Meta** and **Microsoft**. On the other side there are **Chinese** giants like **Huawei, Tencent, Alibaba** and **ByteDance**. This silicon curtain may lead not to digital freedom but to **a global split** where cooperation is replaced by suspicion and technological progress becomes a new battleground for powers.

The use of **neural network** for psychological analysis represent a powerful tool of artificial intelligence, enabling the extraction of behavioral pattern, and emotional states from vast databases. When employed without strict ethical oversight, such tools to manipulate

public opinion, infringe on privacy and erode an individual" autonomy. — Key pillars of a **democratic system** Authoratarian regimes or powerful corporate actors can influence a voter" behavior and his decision to cast a vote according to his will. **For example** **The 2016 US Presidential election** exposed the dark side of Psychological analysis powered by data-driven algorithms most notably through **Cambridge Analytica scandal**, Donalds Tram took data from Facebook of the people of **Swing states** without their consent and provided this data to the Cambridge analytica. This organization through Psychological analysis and political messaging not only provide the Tramp an absolute majority but also controlled the whole election. In this way sanctity ~~security~~ of democracy was polluted.

In this age of artificial intelligence and big data the phrase "**dictatorship of algorithm**" captures a growing concern about the invisible power of machines in shaping the human behaviour. From social media feeds to online shopping, algorithms now determine what a person see, thinks and even desire. These machines track our preferences, emotions and desires gradually taking over the psychological '**buttons**' that guid our thinking.

The exessive penetration of labour-saving machines in daily life has brought convenience but it also poses serious challenges to indivisual wellbeing. A machine takes over tasks that once required physical or mental efforts, people are becoming increasingly sedentary

leading to health problems **Obesity Stress** and **muscle deterioration**

In the digital age, the human attention span is Continuously shrinking giving rise to what experts called a '**Hurried culture**'. **Kary J Daly** in his book "**Families and Times**" wrote that in last **two decades** the attention span of an individual has drastically decreased from **15 seconds** to **8 seconds**. Our patience level has also decreased with time. In the same way the misuse of artifival intelligence has **led** to the end of privacy and personal identity of a person. **Bruce Hartmon**. have a famous and well known novel "**Big Data is Watching You**" Recently **Jeffrey Epstein** Committed d suicide in prison in case for running sextrafficking

network. Using **hidden cameras** they blackmailed powerful figures when they come to ~~their~~ his property and on his **'Lolita Express'**. In this way the privacy of an indivisual can be breashed. The overuse of mobile apps in daily life has contributed to ~~the~~ growing lethorgy and passivity among people. Physical activity and real-world engagement have sharply declined.

To pen it off, it can be said that artificial intelligence is a wonder of man's mind. It has certain pros and cons. It increases access to data and knowledge. It has a significant role in healthcare and manufacturing sector. It can alter outdated agriculture sector. It can cope with climate related

challenges. Despite all these advantages it also has many flaws. AI replaces human jobs in various sectors. It makes people vulnerable to 1 manipulation and Cyber bullying. AI breaches their privacies and plays with their feelings. AI kills human creativity and concentrates power in hands of few indivisuals. Mankind must be aware of the imperfection and consequences of this manufactured intelligence.

It is truly said.

" Artificial Intelligence is a fool- Whether it becomes a mirror of our wisdom or a weapon of our flaws depends on how we choose to use it. "