

# The Role of AI in the national and global security:

## Outline:

### A- Introduction

### B- Overview of Artificial Intelligence in the modern world.

### C- Role of AI in the national security:

a- AI enhances the cybersecurity which is the frontline of national security and defense. U.S. department of Defense AI strategy (2019) emphasizes the centrality of AI in improving military capabilities and cybersecurity.

b- AI plays a crucial role in data gathering and intelligence gathering and analysis to improve national security, such as during Gaza- Israel wars and Russia-Ukraine war, AI plays crucial role in data

gathering and analysis.

ii- According to US defense minister AI is very important in modern warfare for decision making and maintaining the country's national security advantage.

c- Countries use AI's predictive analytics and threat assessment for enhancing national security;

i- The U.S. Homeland Security's AI predictive Policing Programs use algorithms to predict where and when crimes or terrorist attacks are most likely to occur.

ii- A 2022 Brookings institution report found that 60% of defense organizations worldwide are developing predictive AI tools to enhance national security.

iii- AI can enhance decision making by providing real-time data analysis in crisis situations and improve national security;

The OODA Loop (Observe, Orient, Decide, Act) model has been enhanced by AI systems, allowing

for quicker decision making in military engagement and cybersecurity incidents.

e- AI technologies are integrated in Air Space and Maritime to protect national borders;

iii- The European Maritime Safety Agency (EMSA) uses AI-driven satellite monitoring systems

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in European waters, identifying illegal fishing operations and human trafficking routes.

iv- The Russian S-400 Air Defense System incorporates AI to detect and intercept enemy aircraft and missiles, improving its ability to protect against aerial threats.

v- AI is also used to counter misinformation and propaganda in warfare to protect national security.

#### D- Role of AI in global security: weapons have transformed

AI autonomous weapon change the warfare dynamics and use of global security.

i- "Army of None: Autonomous weapons and the future of war, Paul Scharre discusses how AI weapons could change the warfare dynamics, potentially reducing human

casualties but also raising ethical concerns."

Initiating an attack could spark unintended wars, as decision

b- In a global security, AI plays a role in diplomatic negotiation and conflict resolution;

i- Henry Kissinger in collaboration with Eric Schmidt and Daniel Hultenlocher in 'The Age of AI: And Our Human Future', discusses how AI can aid in diplomatic strategies by modeling potential outcomes and aiding decision-makers with unprecedented precision.

ii- AI is used to counter global environmental challenges and global warming to enhance global security;

i- AI driven climate models used by the Intergovernmental Panel on Climate Change (IPCC) predict the impact of global warming on water resources and food security, helping governments develop sustainable policies.

d- AI plays a role in global security by monitoring and protecting valuable assets, infrastructures;

i- The IAEA uses AI-driven systems to monitor nuclear activities in countries like North Korea and Iran and

other countries to detect any potential violations of non-proliferation agreements and international law.

e- AI is used to gather information about human rights violations and violation of international laws to help it take actions to protect innocent people.

i- During Gaza-Israel war, violation of war law

ii- Human rights violation in Kashmir, Yemen, Sudan, China and Afghanistan.

f- AI is used in Global Health security

Example is The development of COVID-19 vaccines was significantly expedited by AI-driven virtual models, such as DeepMind's Alpha Fold, which predicted protein structures vital for vaccine efficacy.

E- Challenge of AI to the national and global security:

a- AI Autonomous weapon system and its lethal effect;

The autonomous weapon of AI misidentify a threat and initiating an attack could spark unintended wars, as decision

and its legal effects

is left in the hands of machines rather than human commanders.

b- AI also ~~exacerbates the~~ threats of cybersecurity

A 2023 World Economic Forum report predicted that by 2030, AI would be responsible for automating 50% of all cyberattacks, making it harder for traditional cybersecurity measures to keep up pace.

c- ~~Non-Data Breaching and Unauthorized access to confidential information threaten the national and global security.~~

A 2022 IBM report revealed that the average cost of a data breach involving AI was 15% higher than traditional breaches due to the complexity of the AI systems involved and the value of the data being targeted.

d- Over-reliance on AI and erosion of Human expertise is also a threat to National and global security.

## F- Way Forward to addressing the Challenges of AI To National and Global Security:

- a- World ~~the~~ power and International AI regulatory body should ~~be~~ establish Global AI Governance and regulatory frameworks.
  - b- AI bodies should develop ethical AI standards.
  - c- To reduce the AI threats in security must incorporate human oversight and Hybrid model to keep human involved in AI technology.
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## G- Conclusion:

well organized and quite relevant