ARTIFICIAL INTELLIGENCE: POSITIVE AND NEGATIVE OUTCOMES:

What is it?

How will it impact our lives?



INTRODUCTION

- Artificial intelligence (AI) refers to the development of computer systems that can perform tasks that typically require human intelligence. These tasks include learning from experience, recognizing patterns, making decisions, and solving problems.
- Al important in today's world with many applications that will impact our health, banking, entertainment, while also posing a threat to our safety and piece of mind.



AI KEY CONCEPTS

- Machine Learning (ML): A subset of AI that enables systems to learn from data without explicit programming. ML algorithms improve their performance over time by learning from examples.
- **Neural Networks**: Inspired by the human brain, neural networks are used in deep learning. They consist of interconnected layers of artificial neurons that process information.
- Natural Language Processing (NLP): AI techniques for understanding and generating human language. NLP powers chatbots, language translation, and sentiment analysis.
- **Computer Vision**: Al algorithms that interpret visual information from images or videos. Applications include facial recognition and object detection.



APPLICATIONS OF AI

- **Healthcare**: AI aids in disease diagnosis, drug discovery, and personalized treatment plans.
- **Finance**: AI optimizes trading strategies, fraud detection, and credit risk assessment.
- **Autonomous Vehicles**: Al enables self-driving cars and drones.
- **Recommendation Systems**: AI suggests personalized content (e.g., Netflix recommendations).
- Virtual Assistants: Al-powered chatbots and voice assistants (e.g., Siri, Alexa).



HEALTHCARE



AI aids in disease diagnosis, drug discovery, and personalized treatment plans.

Apple watches

• Monitor Heart Health, EKG, Blood Pressure,

Medical Devices

Diabetes (blood sugar monitoring)

Rare Diseases (protein quantitation)



FINANCE

- AI optimizes trading strategies, fraud detection, and credit risk assessment.
- Bank freezes credit card or bank account if they detect unusual activity, failsafe mode
- Oracle Trading Algorithm-examines 15K stock/sec to reduce trade risk.



AUTONOMOUS VEHICLES

- Currently newer vehicles have lane departure warning, selfparking, adaptive cruise control
- Full self-driving capability-Testla in USA
- Drone flight control

verything is a Recommendati



RECOMMENDATION SYSTEMS:

- AI suggests personalized content (e.g., Netflix recommendations)
- 80% acceptance rate.

NEWSPAPER USING A READING CHATBOX

WINNIPEG FREE PRESS TESTS AND EMPLOYS APP TO READ THE NEWS TO READERS



READER WAS SAYING PREMIER WHITECLOUD OR PREMIER PALLISTER WHEN COPY REFERENCED CANADA'S FIRST "FIRST NATIONS" PROVINCIAL PREMIER



VIRTUAL ASSISTANTS

- Virtual Assistants: AI-powered chatbots and voice assistants (e.g., Siri, Alexa).
- Voice-controlled virtual assistant, Alexa, connects Amazon account to internet with a Smart speaker
- Ask Alexa, where is my stuff?



FUTURE WITH AI

- AI digital companion- help with day-to-day info, booking trips, movie reviews
- Fully autonomous vehicles safer and reduce time to destination
- AI with internet of things every day devices get smarter, thermostat, appliances
- Advanced virtual reality- hands on training, enhanced play
- Augmented reality- adds computer generated graphics, to the real world via glasses or smartphones. Museum tour info, directional arrows
- Brain-computer interfaces- connect our thoughts to computer
- **6G edge computing-** faster response times, connecting devices seamlessly
- Robotic process automation- use robots for repetitive actions. Example-automotive
- Nanochip integration- tiny devices targeting specific disease tissues in the body
- **Precision agriculture-** manage irrigation, pest control and harvest



POSITIVE OUTCOMES OF AI

Positive Outcomes of AI

Increased Efficiency and Productivity

Automation of repetitive tasks
Faster data processing and analysis

Enhanced Decision-Making

- AI algorithms can process vast amounts of data
- Improved accuracy in decisionmaking processes

Healthcare Advancements

- Early disease detection
- Personalized treatment plans

Improved Customer Experience

Chatbots for customer supportPersonalized recommendations

Environmental Impact

- AI for climate modeling and conservation efforts
- Energy efficiency through smart systems

AI USED TO Defend Against Cyber-Attacks

- Software- Abnormal platform ingests thousands of diverse signals to build a baseline of the known-good behavior of every employee and vendor in an organization based on communication patterns, sign-in events, and thousands of other attributes.
- Applies advanced AI models and natural language processing to detect abnormalities in email behavior that indicate a potential attack.
- Software stays ahead of <u>new and</u> <u>emerging attack types</u>,

An Abnormal Vision



AI TOOLS USED FOR THIS TALK

• Chat GPT- is designed for conversational interactions. Unlike traditional models, it can answer follow-up questions, admit mistakes, challenge incorrect premises, and reject inappropriate requests.(Free for preview version)

Mimic App

- 1. **Choose a Photo**: Select a photo from your gallery.
- 2. Pick a Song: Browse through an extensive music collection and choose a track.
- 3. Generate Fun Videos: Mimic uses AI to animate your photo, creating hilarious, bizarre, and ready-to-go-viral videos.

- MicroSoft Copilot
- **Chatbot**: Copilot is designed to assist users in a conversational manner.
- **Productivity Boost**: It aims to maximize productivity within **Microsoft 365** and enhance the Windows 11 experience.
- Al Capabilities: Copilot can cite sources, create poems, write songs, and engage in natural language interactions.

GENERATE IMAGES FOR FACEBOOK



CREATE VIDEO FROM PICTURE





ETHICAL CONSIDERATIONS

Bias and Fairness:

- Addressing bias in AI algorithms.
- Fairness metrics and mitigation strategies.

Privacy and Security:

- Data privacy risks.
- Protecting sensitive information.

CHALLENGES AND FUTURE TRENDS



NEGATIVE OUTCOMES OF AI



1.Job Displacement

- 1. Automation leading to job loss
- 2. Need for reskilling and upskilling

2.Bias and Fairness Issues

- 1. Al algorithms can inherit biases from training data
- 2. Ensuring fairness and transparency

3.Privacy Concerns

- 1. Data privacy risks
- 2. Surveillance and tracking

4.Ethical Dilemmas

- 1. Autonomous weapons
- 2. Responsibility and accountability

5.Existential Risks

- 1. Concerns about superintelligent AI
- 2. Ensuring safety measures

HOW AI IS USED BY HACKERS AND SCAMMERS:

Automated Attacks: Hackers utilize AI algorithms to automate attacks, increasing speed, scalability, and sophistication. Phishing and Social Engineering: AI-powered tools analyze vast amounts of data to create personalized phishing emails, messages, and chatbots, making scams more convincing.

DeepfakeTechnology: AIgenerated deep fake videos and audios enable impersonation, leading to identity theft or the manipulation of public opinion.

Malware Detection Evasion: AI

can create malware that adapts its behavior to bypass traditional security measures, evading detection systems. Data Breaches and Data Mining: AI algorithms assist hackers in identifying vulnerabilities, exploiting weak points, and extracting valuable data from compromised systems at an unprecedented scale.

Password Cracking: AI accelerates the process of cracking passwords by using machine learning techniques to analyze patterns and predict likely combinations.

TOP AI SCAMS TO WATCH OUT FOR...

Voice Duplication and Deepfakes:

- Scammers sample audio clips to clone voices
- Voice duplication, or vishing fool people into thinking they are speaking to a loved and or trusted person.
- Scammers leverage it to impersonate someone and trick victims into divulging sensitive information.





1. Initial Contact:

- 1. Receives a phone call from someone who claims to be their grandchild.
- 2. Caller often starts the conversation with, "Grandma? Do you know who this is?"
- 3. Victim, thinking it's one of their grandchildren, responds affirmatively.

2. Building Credibility:

- 1. Caller gains credibility by using the grandchild's name.
- 2. Claim to be in trouble, such as being in a car accident, arrested, or facing an emergency.
- 3. "Grandchild" insists on keeping it a secret from their parents.

3. Urgent Request for Money:

- 1. Scammer requests immediate financial assistance.
- 2. Ask the victim to wire money through services like Western Union or MoneyGram.
- 3. Sometimes, the caller puts another person on the phone, posing as a police officer, bail bondsman, or lawyer to make the story seem more credible.

HOW TO PROTECT YOURSELF:

- **Create Family Password with loved ones** Be skeptical of unexpected emotional or threatening messages requesting immediate action or money.
- Never offer information: Don't provide personal details to the caller.
- **Ask questions**: Press the caller for specific details about their location or story.
- **Verify**: After hanging up, call the parents or other relatives of the "grandchild" to verify the situation.
- Avoid wiring money: It's nearly impossible to recover or trace wired funds-

Citibank Alert: Did you attempt a \$504.95 purchase at WALMART on 07/29 with card x5916 ? Reply YES or NO. Msg & data rates may apply.

itibank Alert:

1 808-490-

TEXT TONE IMPERSONATION:

- Phishing emails mimic genuine company or government communications.
- AI models are trained using examples of content, enabling scammers to train AI algorithms to create highly realistic impersonations of legitimate emails and texts. T
- this technique makes it harder for individuals to discern between real and fake communications

PROTECT YOURSELF FROM PHISHING

- Save authentic companies/organizations genuine emails as a reference
- Be wary when emails ask for personal, login or financial info.
- If uncertain call the company independently to ensure you are dealing with the real deal.
- Avoid clicking on links from unknown senders and preview URLs before clicking if you're unsure of their safety.



PHISHING - BANK SCAMS

- Check with bank directly
- Do not click on the link



Text Message Wed, Jan 17 at 10:14 PM

CIBC BANK ALERT: We locked your debit card <u>45064</u>** due to unusual activity. Immediately unblock your debit card now at <u>https://logincibc-</u> <u>cibconline.com/client</u>

SPOOFED EMAIL Address

- Scammers employ AI to **spoof email addresses**, making it seem like a legitimate communication.
- They may even mimic someone's writing style to craft convincing messages.
- **Verify**: If someone asks for sensitive information (credit card numbers, passwords), call the official number on the back of your card or visit the bank's website directly.
- Stay Skeptical: Be cautious of unexpected Report Scams



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AI IN THE FUTURE

Balancing benefits and risks Ethical considerations and responsible AI development The future of AI and its impact on society



REPORT SCAMS

1. Canadian Anti-Fraud Centre (CAFC):

- 1. Online Reporting: You can submit a report online through the Fraud Reporting System.
- 2. Toll-Free Phone: Call the Canadian Anti-Fraud Centre at 1-888-495-8501 (Monday to Friday, 9 AM to 4:45 PM EST).

2. Consumer Protection Office (Manitoba):

- 1. Phone: You can contact the Consumer Protection Office in Manitoba at 204-945-3800 (in Winnipeg) or toll-free within Manitoba at 1-800-782-0067.
- 2. Email: Reach out via email at consumers@gov.mb.ca.
- 3. Competition Bureau (Misleading or Deceptive Marketing Practices):
 - 1. You can file a report of a misleading or deceptive marketing practice with the Competition Bureau using the online complaint form.







RESOURCES

- <u>How Hackers and Scammers Use AI (Artificial</u> <u>Intelligence) – Cyber-Seniors Inc.</u> <u>(cyberseniors.org)</u>
- <u>An Abnormal Vision for Fully AI-Automated</u> <u>Cybersecurity | Abnormal</u> <u>(abnormalsecurity.com)</u>
- 10 AI Innovations that will change your life by 2027.
 https://youtu.be/tcui215ghhw?si=kKe1KfigbD

<u>ybilEv</u>

• <u>Cyber-Seniors - Cyber-Seniors Inc.</u> (cyberseniors.org)