# Data and Artificial Intelligence

# Cyber Shujaa Program

## Week 1 Assignment
## Web Scraping and Data Handling in Python

**Student Name:** Deborah Kwamboka Omae

**Student ID:** CS-DA02-25075

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# Introduction

This week's assignment was on Artificial Intelligence. Its purpose was to reflect on the history and future of Artificial Intelligence by engaging with a recent interview with Prof Geoffery Everest Hinton who is a 2024 Nobel Peace Prize winner and is considered the Godfather of AI due to his great research in developing multi-layer neural networks and deep learning. He is a Professor Emeritus at the University of Toronto and worked for Google for 10 years before leaving to speak more publicly and freely about the risks of Artificial Intelligence.

# Key Themes:

## The future of work

Hinton hints the development of superintelligence in coming years. Superintelligence AI is a hypothetical future stage of artificial intelligence where an AI's cognitive abilities far surpass those of the smartest humans in every domain, including creativity, problem-solving, and social skills. Unlike current AI which is "narrow" and good at specific tasks, a superintelligent AI would be capable of understanding, adapting, and thinking at a level beyond human comprehension. Achieving this level of intelligence could have profound implications, offering potential solutions to global problems but also raising serious concerns about control and safety if not properly aligned with human values.

## Great risks/threats posted by AI

Hinton highlights some safety concerns about using AI. One of the risks is:

- **people misusing AI**

  Examples

  Through cyber-attacks and fishing attacks where people try to get your login credentials. Geoffrey explains that secure banks can be prone to cyber-attacks.

Using AI to create nasty viruses. Hinton explains that AI can be used to create viruses and it doesn't need a skilled molecular biologist to do that.

Using AI to corrupt elections by spreading disinformation, targeting voters with manipulative messages based on data analysis and hacking voting systems to tamper with results

Creating eco chambers that brings division among people through algorithms Lethal autonomous weapons especially in the military can be used without human involvement, surveillance for intelligent gathering and border control for patrolling and detecting threats without human oversight. Major risks include lack of accountability as it would be difficult to assign responsibility for their actions, malicious use, and system failures leading to catastrophic consequences

- **AI becoming super smart making us useless**

Joblessness- many systems are automated reducing the number of workers. Concerns that AI will make people jobless are based on the reality of job displacement, but this fear overlooks the technology's potential for creating new roles and augmenting human work. The overall impact on employment is a complex dynamic of automation, job transformation, and creation, much like past technological revolutions.

## Future trends in AI development

Giving AI emotional capabilities – emotions like fear play vital roles in human behaviour. Fear helps avoid danger, empathy fosters cooperation and guilt supports social norms. While giving AI emotional capabilities could aid decision making, it also raises significant ethical and practical challenges.

Development of conscious AI-It is theoretically possible that AI research can develop partial or potentially alternative forms of consciousness that is qualitatively different from the human, and that may be either more or less sophisticated depending on the perspectives

# Conclusion

While AI offers remarkable benefits especially in health care industry to solving global problems, Hinton warns that its growing autonomy and potential for manipulation could become dangerous if left unchecked. Geoffrey Hinton strongly emphasizes the urgent need for strict regulation of artificial intelligence to address the growing safety and ethical concerns surrounding its rapid development. He warns that without proper oversight, AI could advance beyond human control, creating risks that affect not only individuals but society at large. Hinton believes that while AI has immense potential to improve lives, its power must be guided responsibly through laws, policies, and accountability systems.

He calls upon citizens, researchers, and policymakers to pressure governments to take decisive action in regulating AI companies. According to Hinton, these companies are often driven by competition and profit, leading them to prioritize innovation speed over safety. Without external regulation, this could result in the creation of systems that behave unpredictably or even dangerously.

Therefore, Hinton's message is not merely a warning but a call to collective responsibility. He urges everyone to take part in shaping the ethical direction of AI to ensure that technology remains a tool that serves humanity rather than one that threatens it. Through transparent development, government involvement, and global cooperation, society can harness AI's benefits while preventing potential harm.