Establish the impact on security of advanced algorithms for use in applications, and evaluate important social and ethical considerations in how these types of algorithms are being deployed by business and government.

Advanced Research LO4

julia kloda

2025

Contents

[Introduction 2](#_Toc197594675)

[Security 2](#_Toc197594676)

[Business 2](#_Toc197594677)

[Government 2](#_Toc197594678)

[Conclusion 3](#_Toc197594679)

[References 4](#_Toc197594680)

# Introduction

Just Pick is a movie recommendation web app that uses an advanced algorithm called LLaMA 3.2 pretrained language model to deliver personalized suggestions. (Kloda, 2025)

# Security

Pretrained model can introduce new security risks such as collection of user data which we gather in our project. While this model enhances the user experience, it may raise data privacy concerns, as it can process user data that might potentially be used or shared by third parties. To prevent this, we minimize data exposure by encrypting data and ensure full compliance with privacy regulations. Additionally we don't send sensitive data directly to model.

# Business

Social:

Advanced algorithm like LLaMA has a significant impact on society.

This also affects us directly, as seen in the ongoing changes in the job market driven by automation and Artificial Intelligence. “AI is already replacing jobs, responsible for nearly 4,000 cuts made in May 2023, according to data from Challenger, Gray & Christmas Inc. OpenAI - the company that created ChatGPT - estimated 80% of the U.S. workforce would have at least 10% of their jobs affected by large language models (LLMs).” (Lutkevich, 2024)

It enhances user experience by providing accurate content for example, in movie recommendation systems. However, users also need to be mindful of the data they share with these models, as AI systems may process or retain personal information, raising privacy and ethical concerns.

Ethical:

Pretrained AI models can process and store sensitive user data without explicit user consent if safeguards are not in place. Users should be informed when AI is being used and be aware of the possibility of error.

# Government

Social:

Businesses increasingly deploy these algorithms for services like public communication or social service automation, raising serious social considerations. Governments must provide skills training for the public on the risks and benefits of AI to enable people to understand how AI affects their lives. It is also important for the government to provide programs or social benefits to those whose jobs are replaced by automation.

Ethical:

Individuals are not aware of how their data is being used. This creates a gap in public trust, as people unknowingly agree to practices that violate their privacy. Therefore, governments must introduce clear regulations regarding the use of AI by companies to ensure that AI technologies are used in a transparent manner. (GOV.UK, 2019)

# Conclusion

Pretrained models have a growing impact on security of modern applications. While artificial intelligence can enhance user experiences, it also raises concerns around data privacy. Businesses must take responsibility for keeping data safe and ensuring that users understand how their information is used. Government also needs to regulate AI deployment, educate the public and protect people's privacy.

# References

Kloda ed., (2025). [online] github. Available at: https://github.com/Jkloda/LOJuliaKloda/blob/main/Realising%20a%20minimum%20valiable%20product/AlgorithmsManipulationData.docx [Accessed 9 May 2025].

Lutkevich, ben (2024). *Will AI replace jobs? 9 job types that might be affected*. [online] WhatIs.com. Available at: <https://www.techtarget.com/whatis/feature/Will-AI-replace-jobs-9-job-types-that-might-be-affected>. [Accessed 19 Apr 2025].

‌GOV.UK (2019). *Understanding artificial intelligence ethics and safety*. [online] GOV.UK. Available at: <https://www.gov.uk/guidance/understanding-artificial-intelligence-ethics-and-safety>. [Accessed 20 Apr 2025].