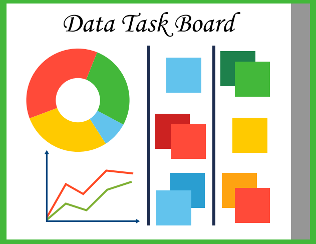
Research Poster: Ethical Study on Data Analysis

Introduction

Privacy Protection
Data Security and Integrity
Ethical AI Development & Environmental Impact
Responsible Data Sharing
Transparency and Accountability



Objective

The goal of data analysis is to extract meaningful information from data sets to facilitate better decision-making, innovation, and improvement across different domains and industries.

Case Study_01

Data Ethics: The principles behind how organizations gather, protect, and use data.

Data is a valuable asset that can build the next great business or innovation to improve the lives of countless people. However, it is also a resource that many organizations are not protecting or using ethically.

Analysis

September 2018, hackers injected malicious code into British Airways'website, diverting traffic to a fraudulent replica site.

In 2019, after Apple introduced its credit card to consumers, allegations of an algorithm with gender bias emerged website, diverting traffic to a fraudulent replica site.

In March 2021, the privacy of over 533 million Facebook users was compromised when their data was posted on an open hackers' forum. It was one of the largest data breaches of all time.

Case Study_02

Ethical Dilemma of Social Media Influence.

Social media platforms use data analysis to curate content for users. Ethical dilemmas arise when these algorithms reinforce polarizing content or spread misinformation, potentially influencing public opinion and societal discourse negatively.

Analysis

The lack of transparency of AI tools and the susceptibility of AI based decisions to inaccuracies, discriminatory outcomes, and embedded bias are some of the ethical dilemmas associated with AI.

The regulation of digital information privacy is dependent on national differences and systems and difficult to implement and enforce across jurisdictional boundaries.

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Example

The Boy Who Hacked NASA : The Tragic Life of Jonathan James

Bangladesh government website leaks citizens' personal data

Unethical use of deep fake technology poses various concerns.

Scenario_01

What If Mark Zuckerberg Steals All Our Data And Runs Away?

Facebook (2018): Data Stolen:
Approximately 87 million users' data

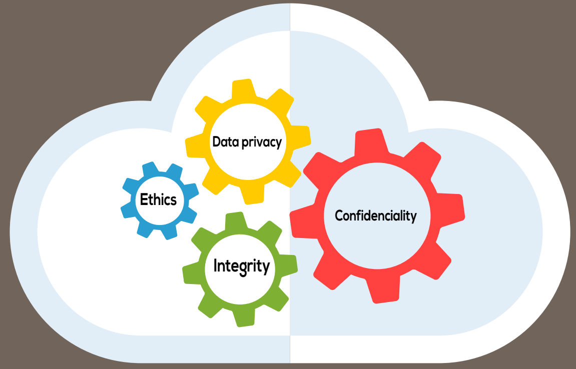
Equifax (2017): Data Stolen:
Data of about 147 million consumers.

Scenario_02

Data Stealing by 3rd Party Website or Mobile Applications?

A third party data breach is an incident where sensitive data from an organization is not stolen directly from it, but through one of its third party vendors. In this case, the vendor's systems are misused to access the organization's systems.

Conclusion



The development of data ethics in Computer Science and Engineering (CSE) has become increasingly important due to the proliferation of data-driven technologies and their impact on society. Data ethics within CSE refers to the moral principles, guidelines, and standards governing the responsible collection, storage, processing, and use of data.