Department of Computer Science and Engineering (Data Science)

Class/ Sem: B.Tech/ Sem-VIII Sub: Data Ethics

#### **Tutorial-2**

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## **Uber's Greyball Program (2017)**

In 2017, it was revealed that **Uber** used a tool called **Greyball** to identify and block individuals, such as government regulators and law enforcement officials, from accessing its ride-hailing service in cities where Uber was either banned or under investigation. The tool was part of Uber's strategy to circumvent regulatory scrutiny and continue operations in locations where authorities had placed restrictions on the company.

## **How Greyball Worked**

**A.Y.:** 2024-25

- **Data Collection:** Greyball used Uber's data to detect potential regulators trying to use the Uber app. It analyzed various data points, such as the device's location, the frequency of rides requested, the IP address, and even the type of credit card being used.
- **Blocking Regulators:** If Greyball identified a user as a potential regulator, it would serve them with a "ghost" version of the Uber app. This version would either not allow them to request a ride or show them fake cars that were unavailable, preventing the regulators from using the app to collect evidence.
- Evading Authorities: This enabled Uber to keep operating in cities or jurisdictions where its service had been banned or where regulators were trying to enforce local laws.

### **Ethical Issues**

- Deceptive Practices: The core ethical issue with the Greyball program was
   Uber's use of deceptive tactics to bypass regulations. It raised significant
   questions about corporate responsibility, transparency, and whether a company
   should be allowed to use data to subvert laws meant to ensure fairness and
   safety.
- Violation of Public Trust: Greyball's use undermined the regulatory process, as Uber was essentially concealing its activities from regulators in order to avoid enforcement. This led to a public outcry regarding the company's willingness to circumvent local laws for the sake of profit.
- Invasion of Privacy: The tool relied on tracking and analyzing user data, which raised concerns about how much personal information Uber was collecting and whether users were adequately informed about how their data was being used.



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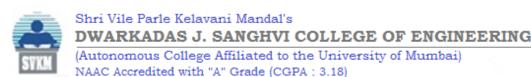
## Consequences

**A.Y.:** 2024-25

- Public Backlash: After the program was exposed, Uber faced significant backlash. The news of Greyball tarnished its image as it painted the company as willing to break the law to expand its business.
- Legal and Regulatory Scrutiny: The program led to investigations from several authorities, including the U.S. Department of Justice and European regulators. It raised questions about whether Uber had broken laws or violated anti-corruption rules.
- Leadership Changes: Uber's controversial practices, including Greyball, contributed to the resignation of its CEO, Travis Kalanick, in 2017. His departure was part of a broader effort by the company to shift its culture and rebuild its reputation.
- Reform Efforts: Following these controversies, Uber made efforts to improve its transparency and cooperate with regulators in the cities where it operated.

### **Questions for Discussion:**

- **1.** How do data collection practices impact user privacy, and what ethical considerations should companies take into account when collecting personal data from users?
- 2. What is the role of informed consent in data ethics, and why is it crucial for organizations to ensure that users are fully aware of how their data will be used, shared, and stored?
- 3. In what ways can data anonymization and de-identification processes prevent breaches of privacy, and to what extent can these methods be trusted to protect user identities without compromising data accuracy for analysis purposes?
- 4. What are the ethical challenges companies face when using artificial intelligence (AI) and machine learning to process and analyze personal data, and how can they mitigate biases and ensure fairness in these systems?
- 5. How should organizations handle data security, and what ethical responsibilities do companies have in protecting sensitive customer data from potential breaches or unauthorized access?





## **Department of Computer Science and Engineering (Data Science)**

A.Y.: 2024-25 Class/ Sem: B.Tech/ Sem-VIII

Sub: Data Ethics al boundaries

- 6. When companies use user data for targeted advertising, what ethical boundaries should be established to avoid manipulation, exploitation, and potential harm to vulnerable individuals or groups?
- 7. What are the ethical implications of governments and large corporations having access to vast amounts of personal data, and how should they balance public safety concerns with individual rights to privacy and autonomy?
- 8. What is the significance of transparency in data practices, and why is it critical for organizations to disclose their data collection methods, algorithms, and the potential impacts of their data-driven decisions on users?
- 9. How can data ethics frameworks be applied to ensure that organizations uphold the dignity and autonomy of individuals when their personal data is being used in research, marketing, or product development?
- 10. What are the ethical considerations surrounding the sale or sharing of personal data with third parties, and how can businesses create policies that ensure they prioritize user consent and data protection when entering into data partnerships or collaborations?
  - 1. On data collection's impact on privacy:
  - Personal data collection creates digital footprints that can reveal intimate patterns of daily life, including where people go, who they interact with, and what choices they make.
  - Organizations often collect data that seems harmless in isolation but can be combined to create detailed personal profiles, as evidenced by Uber's combination of credit card information, location data, and usage patterns in the Greyball program.
  - Companies must carefully balance their business needs against potential privacy invasions, only collecting data that serves a legitimate purpose and provides clear value to users.
  - The extensive nature of modern data collection means that companies hold unprecedented power over individual privacy, requiring strict ethical guidelines and protective measures.
  - 2. Regarding informed consent:
  - True informed consent requires that users clearly understand what data is being collected and how it will be used before they agree to share their information.



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- Companies have an ethical obligation to present their data collection practices in clear, accessible language rather than hiding details in complex legal documents.
- Users must have genuine choice in whether to share their data, including the ability to decline certain types of collection without losing access to essential services.
- Regular updates about changes in data usage and renewed consent requests demonstrate respect for user autonomy and build trust.
- 3. On data anonymization and de-identification:
- Modern anonymization techniques include methods like data aggregation, pseudonymization, and differential privacy to protect individual identities while maintaining data utility.
- Even sophisticated anonymization methods can be vulnerable to re-identification through cross-referencing with other data sources, requiring constant vigilance and updates to protection methods.
- Organizations must regularly test their anonymization methods against new attack vectors to ensure continued effectiveness.
- The balance between maintaining data utility and ensuring true anonymity remains a significant challenge in data protection.
- 4. Regarding AI and machine learning ethics:
- Artificial intelligence systems can inadvertently perpetuate societal biases present in their training data, requiring careful examination of data sources and outcomes.
- The complexity of machine learning algorithms often creates a "black box" effect, making it difficult to explain decisions that affect people's lives.
- Regular auditing of AI systems for bias and discrimination must be a standard practice, particularly in high-stakes applications like lending or hiring.
- Human oversight remains essential in AI systems to ensure ethical decision-making and prevent automated discrimination.
- 5. On data security responsibilities:
- Organizations must implement comprehensive security measures including encryption, access controls, and regular security audits to protect user data.
- Employee training on security best practices should be mandatory and updated regularly to address new threats.
- Companies must maintain detailed incident response plans and practice their execution before real breaches occur.



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• Transparent communication with users about security incidents should be prioritized over protecting corporate reputation.

## 6. On ethical boundaries in targeted advertising:

- Companies must establish clear guidelines prohibiting the exploitation of vulnerable populations such as children, elderly, or individuals with mental health challenges in their advertising practices.
- Advertising algorithms should be designed to avoid manipulating users through psychological vulnerabilities or emotional triggers, respecting human dignity and autonomy.
- Organizations need to provide transparent explanations of why users are seeing specific advertisements, empowering them to make informed choices about their data.
- Companies should implement robust mechanisms for users to opt out of targeted advertising without losing access to core services.
- Regular audits should be conducted to ensure advertising practices remain within ethical boundaries and respect user privacy preferences.

## 7. On government and corporate data access:

- The concentration of personal data in the hands of governments and large corporations creates significant power imbalances that require robust oversight mechanisms.
- Organizations holding large amounts of personal data must implement strict controls to prevent mission creep, where data collected for one purpose is used for unrelated purposes.
- Democratic societies need to establish clear boundaries between legitimate data use for public safety and potential surveillance overreach.
- Regular transparency reports should detail how collected data is being used and shared between organizations and government entities.
- Independent oversight bodies must have sufficient authority to investigate and enforce compliance with data protection regulations.

### 8. On transparency in data practices:

- Organizations should provide clear, accessible documentation of their data collection and processing methods in language that average users can understand.
- Companies must be upfront about the algorithms and decision-making processes that affect users, particularly in high-stakes situations like financial services or healthcare.



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- Regular updates should inform users about changes in data practices and their potential impact on privacy and service delivery.
- Organizations should maintain public records of their data-sharing relationships and the purposes for which data is shared.
- Users should have easy access to information about what data is being collected about them and how it is being used.
- 9. On implementing data ethics frameworks:
- Organizations must develop comprehensive ethical guidelines that prioritize human dignity and autonomy in all data-related decisions.
- Regular ethical impact assessments should be conducted to evaluate the long-term societal effects of data collection and processing practices.
- Companies should establish ethics boards with diverse representation to review and guide data-related policies and practices.
- Clear procedures must exist for addressing ethical concerns raised by employees or users about data practices.
- Organizations should regularly update their ethical frameworks to address new challenges posed by evolving technology.

### 10. On ethical data sharing and partnerships:

- Organizations must thoroughly vet potential partners' data protection practices before entering into data-sharing agreements.
- Contractual obligations for data handling should be specific and enforceable, with clear consequences for violations of trust or misuse of data.
- Regular audits of partner organizations' data practices should be conducted to ensure ongoing compliance with ethical standards.
- Companies must maintain transparent records of all entities that have access to user data and the specific purposes for which access is granted.
- Users should receive clear notifications when their data is being shared with third parties and have the ability to opt out of such sharing when appropriate.