**Introduction:**

* Data scientists are responsible for making ethical decisions that impact people's lives.
* The presentation focuses on how to create an ethical framework to guide decisions as a data scientist.

**Part 1: Ethical considerations in Data Science**

* Key ethical considerations: bias, fairness, privacy, transparency, accountability, and social impact.
* Bias can occur in data collection, analysis, and interpretation, which can lead to discriminatory decisions.
* Fairness involves treating everyone equitably and avoiding discrimination.
* Privacy concerns involve collecting and storing personal information, which can lead to data breaches or unauthorized use.
* Transparency involves providing clear explanations of how decisions are made and being open about limitations.
* Accountability involves taking responsibility for ethical decisions and their impact.
* Social impact involves considering how decisions impact society, especially marginalized communities.

**Part 2: Ethical tools for Data Science**

* Ethical frameworks can help guide ethical decision-making, such as the Belmont Report, the Fair Information Practice Principles, and the European Union’s General Data Protection Regulation (GDPR).
* A decision tree can help make ethical decisions by asking questions such as: what is the potential harm? Who will be impacted? What are the benefits?
* An ethical matrix can help assess ethical risks by considering the likelihood and severity of harm.
* Ethical impact assessments can help evaluate the potential impact of decisions on people and society.

**Part 3: Case studies**

* The COMPAS algorithm was used to predict recidivism in criminal cases but was found to be biased against African Americans.
* The Cambridge Analytica scandal involved using Facebook data to target political ads, violating users' privacy.
* The Google Photos app incorrectly labeled African Americans as "gorillas," highlighting the issue of bias in AI.
* The Flint water crisis involved a failure to consider the impact of decisions on marginalized communities, leading to a public health crisis.

**Reflections and Thoughts:**

* I was struck by the importance of considering the impact of decisions on marginalized communities, who are often disproportionately affected by ethical failures.
* The ethical tools presented are helpful in guiding ethical decision-making, but it is also essential to have a deep understanding of the context and the potential harm of decisions.
* The case studies provided a clear illustration of the consequences of failing to consider ethical implications in data science.

**Conclusion:**

* Ethical considerations should be an integral part of the data science process.
* Data scientists have a responsibility to consider the impact of their decisions on people and society.
* Ethical tools can help guide ethical decision-making and prevent harm.