Assignment 1

Machine Learning in Policing

Imagine that a city police department has started using a predictive policing framework, called "CrimePredict," designed to help allocate police resources more efficiently. This framework analyzes historical crime data, social media activity, and other public data to predict where crimes are likely to occur and who might be involved. It is meant to help the police prevent crime by increasing patrols in high-risk areas and monitoring individuals flagged by the system. Beyond historical crime data and social media activity, the AI now integrates

- Real-time CCTV facial recognition feeds from public cameras,
- License plate scanning data,
- Aggregated purchase and location data from private vendors (purchased legally)

Public debate has intensified:

Positive Outcomes Claimed by Police:

- Burglary rates in "predicted high-risk zones" have dropped by 18%,
- Faster emergency response times in certain districts,
- Identification of repeat offenders through pattern recognition

Negative Outcomes Reported by Civil Rights Groups:

- False identifications in facial recognition disproportionately affect minority residents,
- Community trust in law enforcement is decreasing,
- Individuals have been stopped multiple times without committing crimes
- Local businesses in "high-risk zones" have seen a decline in customers due to perceived danger

Answer following questions based on your own idea :

1) Define ethical in ML briefly. And is it ethical to deploy the Crime Predict framework when its data is demonstrably skewed?

2) Discuss whether predictive police are fundamentally flawed if crime data is inherently biased and propose at least two concrete ethical guidelines for ML-based police systems that impact public safety.

3) Should third-party contractors be legally and morally responsible for discriminatory results?

4) Define briefly fairness in ML. And, how can we make sure a ML-based Policing framework treats all groups of people fairly?

5) Define briefly transparency in ML. Why should the public know how ML-based policing tools used make their predictions?

Rubrics:

This is individual assignment. No coding is needed for this assignment. Do not use any AI tools to answer these questions. Using any AI-based tools results in 0. For each question, identify multiple perspectives and discuss your answers in a clear and organized manner. Here is a brief rubrics of Assignment 1:

Criteria	Excellent (20 pts)	Good (between 19-15pts)	Fair between 14-10pts)	Poor (less than 10)
Understanding of Ethical Issues	Shows deep understanding of ethical concepts in ML; explains with relevant examples from policing context.	Shows good understanding; examples somewhat relevant.	Shows partial understanding; lacks clear connection to policing.	Minimal or incorrect understanding; no relevant examples.
Fairness Question Response	Clearly defines fairness; explains why it matters; uses policing example; addresses challenges.	Defines fairness; explains importance; uses some relevant example.	Gives a basic definition; weak or no example.	Incomplete or incorrect definition; no example.
Transparency Question Response	Explains transparency clearly; links to public trust and accountability in policing; strong reasoning.	Explains transparency; some link to public trust.	Partial explanation; weak link to policing.	Incomplete or incorrect explanation.
Critical Thinking	Identifies multiple perspectives; discusses trade-offs or unintended consequences.	Identifies at least two perspectives; some discussion of trade-offs.	Identifies one perspective; minimal discussion of trade-offs.	Only one view presented; no discussion of trade-offs.
Clarity & Structure	Answers are clear, well-organized, and concise; no grammatical errors.	Mostly clear and organized; minor grammar issues.	Somewhat unclear; organization could improve; several errors.	Disorganized or unclear; frequent grammar issues.