

Predicting crime and criminality

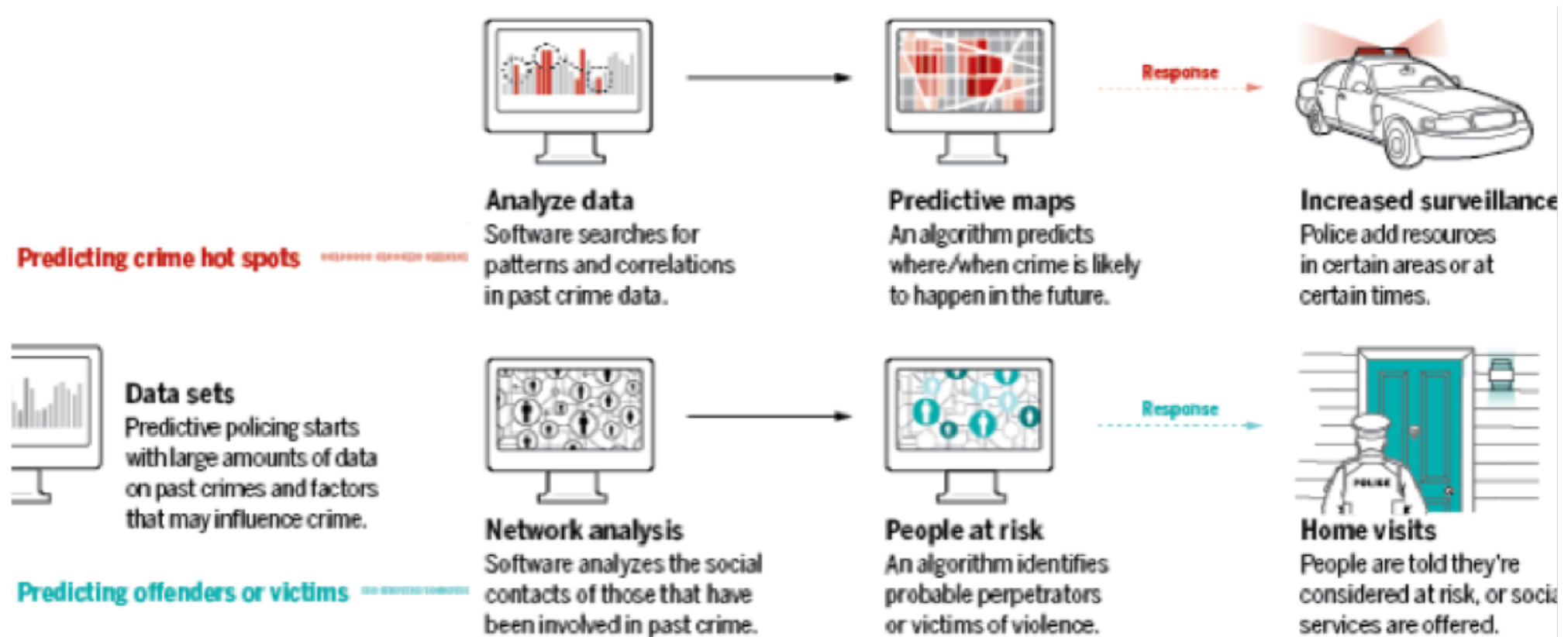
Can “predictive policing” prevent crime before it happens?

Definition

Predictive Policing is the application of analytics and artificial intelligence for prediction, identification and precaution of any criminal activity

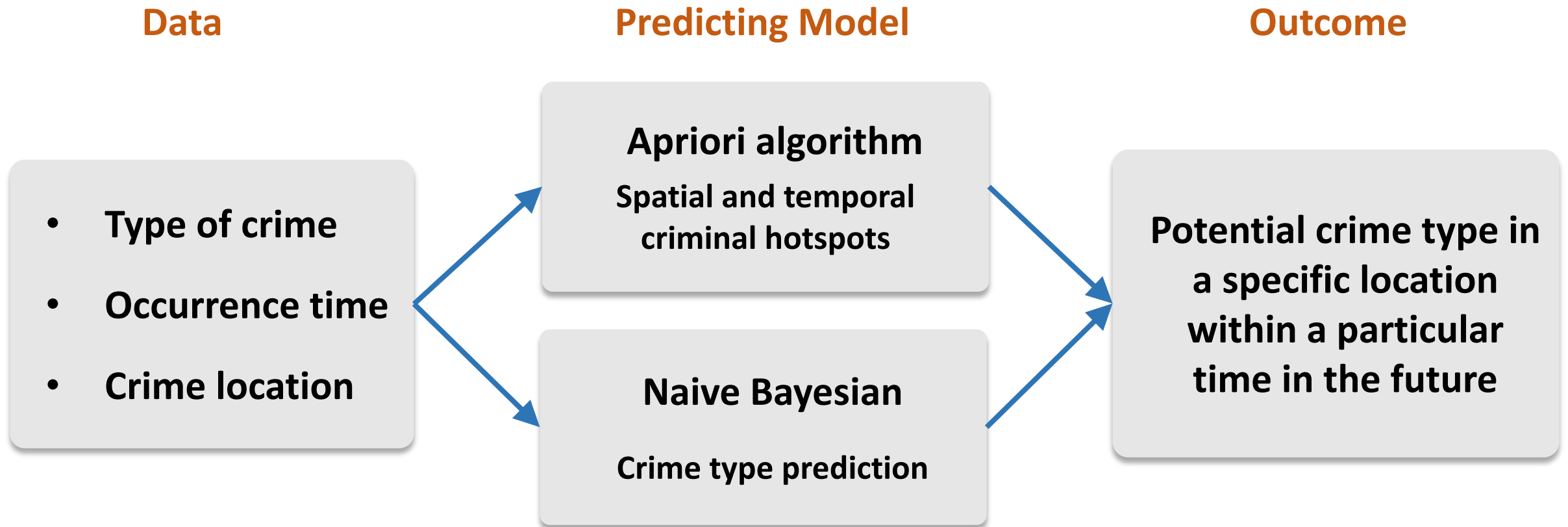


Common Approaches



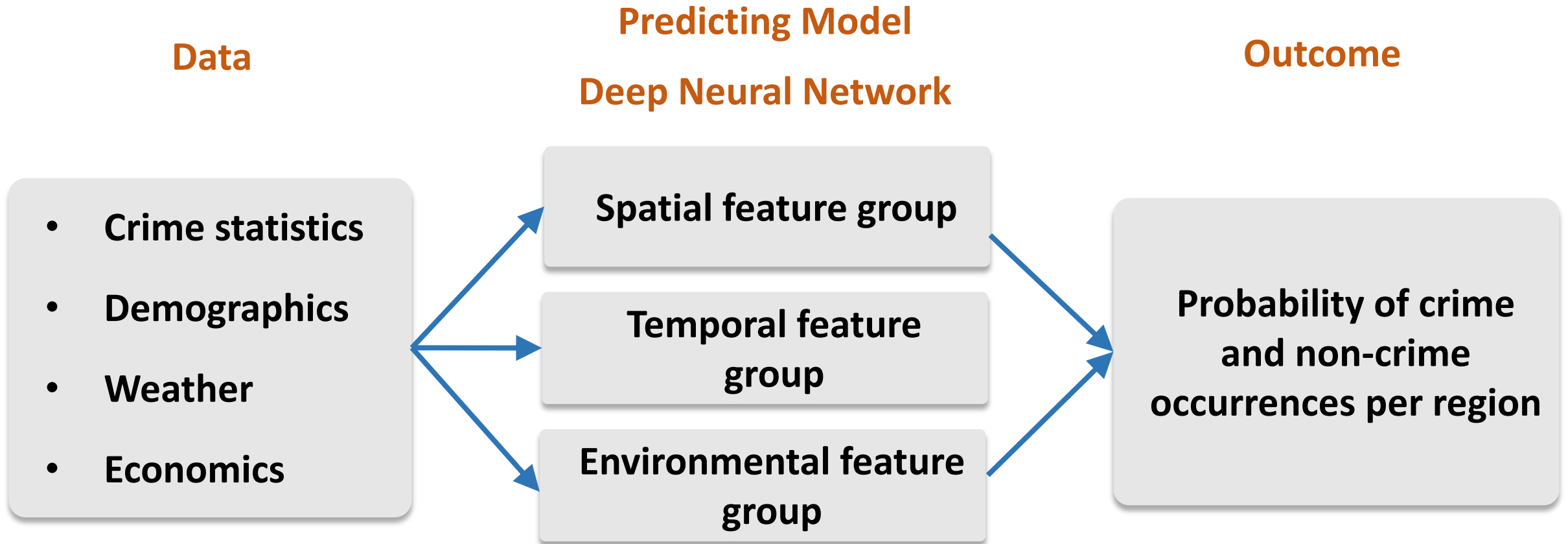
A Case Study 1:

Predicting crimes in LA and Denver



A Case Study 2:

Predicting crimes using deep learning



A Case Study 3 : Harm Assessment Risk Tool (HART)

Predicts the risk of convicts reoffending (to be implemented in Durham, UK)

Data

- Past offending history
- Other background characteristics
- Repeated offences

Predicting Model

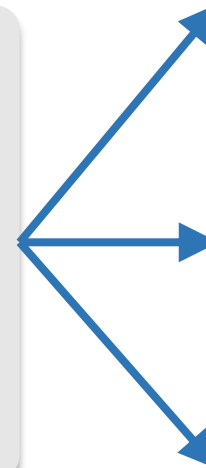
Random Forest for Classification

Outcome

High Risk offenders –
a new serious offence

Moderate risk offenders –
any non-serious offending

Low risk offenders –
no offence



A Case Study 4 : Predictive Policing Software (PredPol)

Research project between the Los Angeles Police Department and UCLA

- **Assumptions**
 - Weather affects crime
 - Offenders search locally their targets
 - Repeat victimization (broken window theory)
 - Near-repeat victimization (effects on neighbors)
- **Field tests across 3 LAPD Divisions (21 months period)**
 - Reduction of 7.4% in crimes
- **The research lead to the creation of PredPol, The Predictive Policing Company.**
- **PredPol is deployed in over 50 police departments**

Conclusions

- **Pros:**

- Optimal allocation of police patrols
- Prevent organized crime
- Tool for Public Policy

- **Cons:**

- Crime displacement
- Risk of false positive/negative
- Risk of bias

