

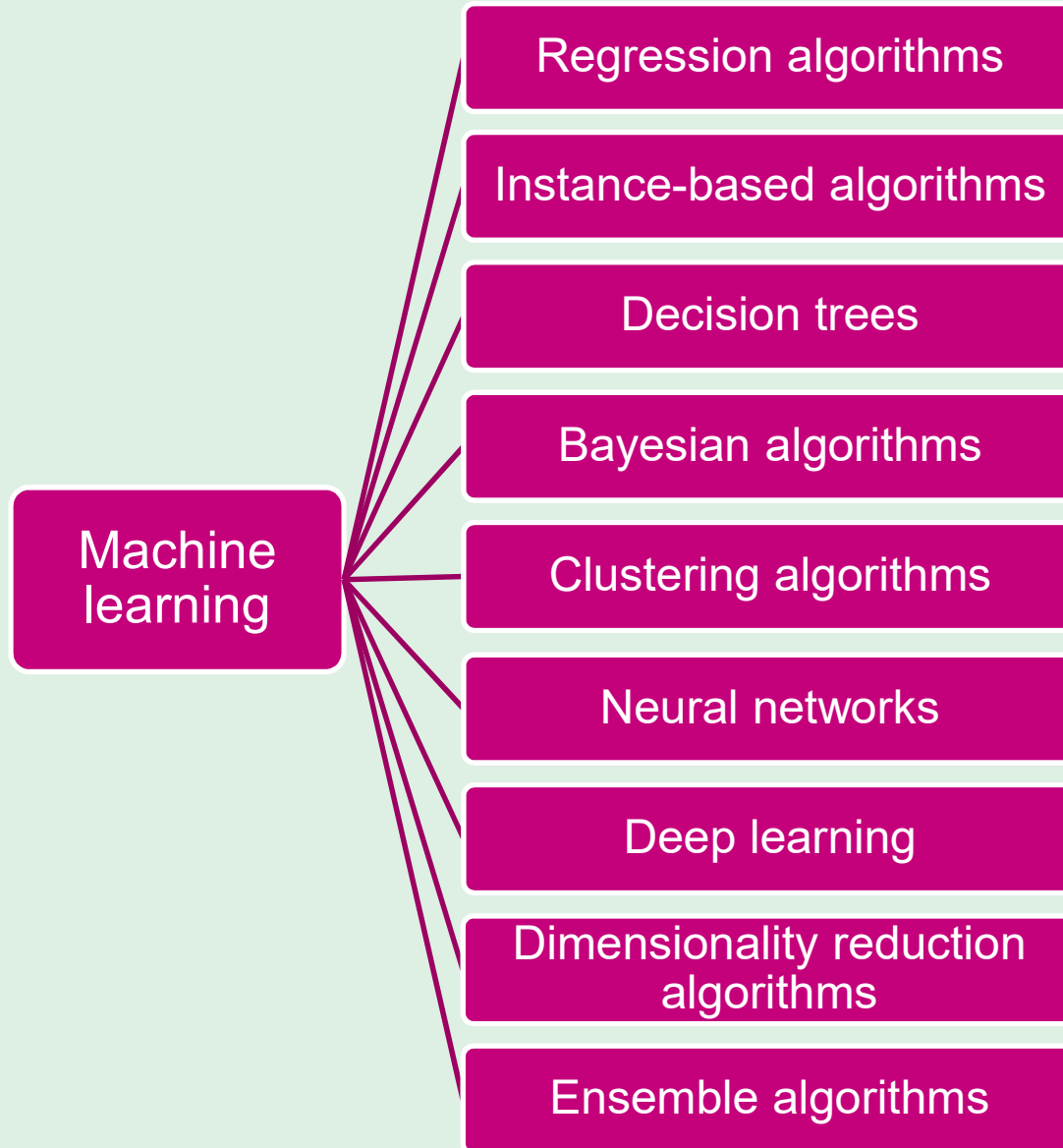
# Machine learning in the public sector

Lessons from the UK

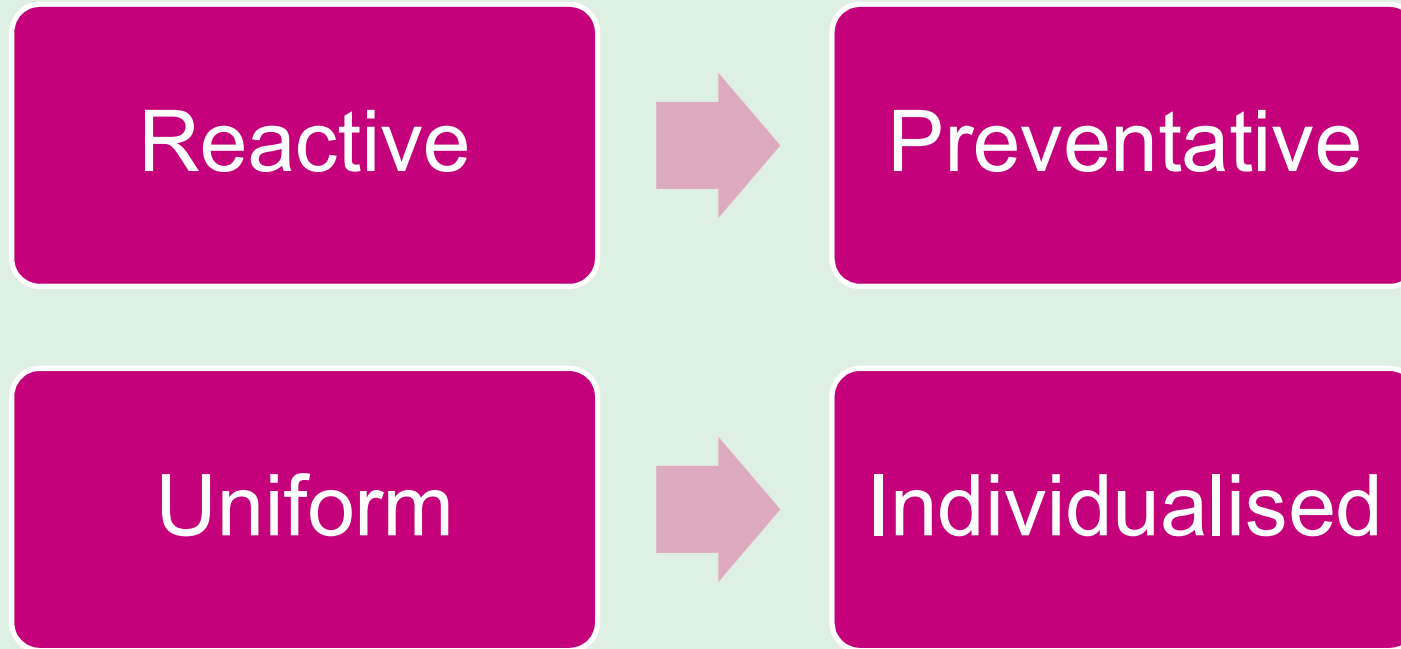
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**What's machine learning?**

> “machine learning systems can carry out complex processes by learning from data, rather than following pre-programmed rules”  
– Royal Society



**What are the potential benefits?**



Positive externalities:

- increased efficiency
- increased effectiveness

**Anticipate**

Predictive  
policing

Abusive  
households

**Detect**

Fraud

Diagnosing

**REFORM**

# Examples of machine learning in the public sector

## Google DeepMind pairs with NHS to use machine learning to fight blindness

'Deep learning' research company will use 1m anonymised eye scans to train a neural network to identify early signs of degenerative eye conditions



### KENT POLICE

#### PREDPOL SLASHES CRIME IN NORTH KENT

Posted on Aug 15, 2013 in LAPD, Los Angeles Police, PredPol

From Kent Online - by James Snaith A tough Los Angeles style of policing - which predicts crime before it happens - has seen street violence in north Kent slashed by 6%. Sounding more like a Hollywood blockbuster than crime-fighting in the county, the idea originated in the Californian city. It has now been adopted [...]

[Read More](#)

#### KENT POLICE USE PREDPOL TO PREVENT VIOLENT CRIME

Posted on Aug 7, 2013 in Dr. Jeff Brantingham, Predictive Policing, PredPol, Press

"weekend blitz" to prevent violent crime according to the Kent  
ng its summer blitz on violent crime and made a further 138  
redictive policing data, officers patrolled the county's town centres

## NEW INSIGHTS INTO IMPROVING OUTCOMES FOR AT-RISK YOUTH

THE NEWCASTLE EXPERIENCE



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**What challenges lie ahead?**

## Data infrastructure

Interoperability

Data sharing

Data protection regulation

## Ethics

Transparency

Accountability

Fairness

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# Potential solutions

Ben  
Shneiderman

- National Algorithm Safety Board

Royal  
Statistical  
Society

- Council for Big Data Ethics

European  
Union

- General Data Protection Regulation

Tech Industry

- Partnership AI

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