

# UNDERSTANDING AUTOMATED DECISIONS

## AUTOMATED DECISIONS ARE SHAPING THE WAY WE LIVE

Automated decisions are part of many services we use everyday, but how they work is rarely explained or understood.

This matters because automated decisions have an impact at scale. For example, automated decisions within social media may only show people news from one side of a political argument. An automated system calculating insurance premiums could determine a less affluent area is high risk, increasing costs for people in that area.

Decisions made by automated systems should be transparent, explainable and accountable. Individuals and society need to be able to understand and challenge automated decisions.

### SEE THE WORK ONLINE

[automated-decisions.projectsbyif.com](http://automated-decisions.projectsbyif.com)

## A COLLABORATIVE PROJECT

This work was a collective effort by researchers from the London School of Economics Data and Society programme in the Department of Media and Communication, and technology studio IF.

The team combined academic and design research. Through an industry case study, we explored how to make automated decisions understandable, and identified the challenges of doing this. The result is a series of prototypes that demonstrate how to apply academic research to the way services are designed.

We are showing this work to demonstrate to industry and the public why automated decisions must be explained.

### LSE RESEARCH TEAM

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## HOW SHOULD ORGANISATIONS EXPLAIN THEIR AUTOMATED DECISIONS ?

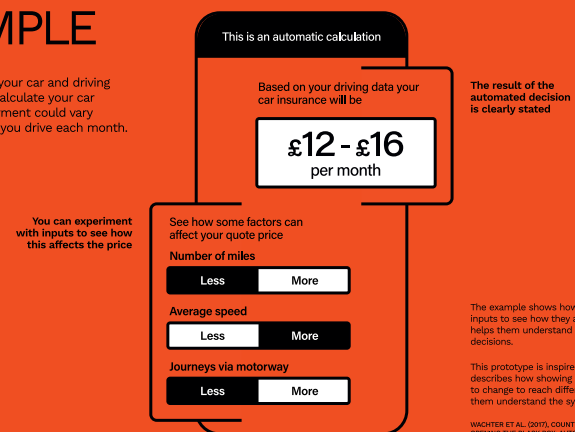
Organisations should find ways to explain how their automated systems make decisions.

How automated systems work is often a unique part of a company's business model and may be commercially sensitive information.

Some kinds of automated decisions are easier to explain than others. For example, it is harder to know how a decision was made if the system uses a machine learning model rather than a rule based approach.

### EXAMPLE

Information about your car and driving history is used to calculate your car insurance. Your payment could vary depending on how you drive each month.



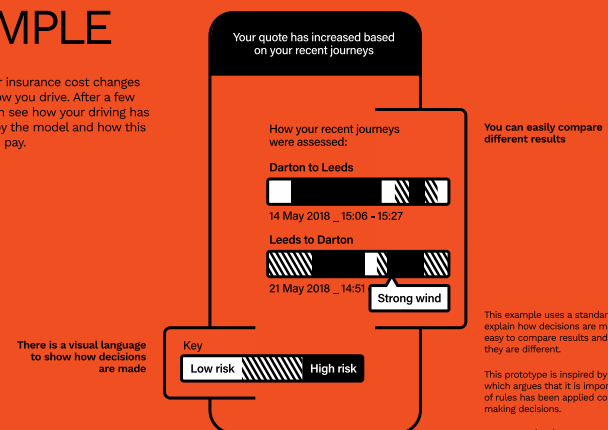
## HOW CAN ORGANISATIONS SHOW THAT AUTOMATED DECISIONS ARE FAIR ?

Decisions seem fairer when they are made using a clear and consistently applied set of rules. Organisations should show what those rules are, and how they affect decisions.

The results can still be considered unfair by society, even if the decisions are consistent with the rules set by the organisation.

### EXAMPLE

Your monthly car insurance cost changes depending on how you drive. After a few journeys, you can see how your driving has been assessed by the model and how this affects what you pay.



## HOW CAN ORGANISATIONS INVESTIGATE IF SOMETHING GOES WRONG ?

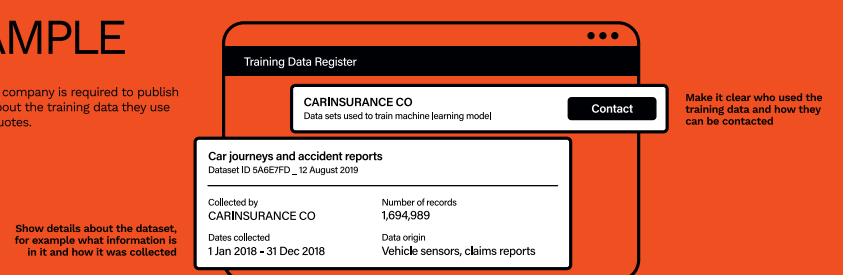
If something goes wrong an organisation should investigate how the decision was made and how the automated system was developed.

Companies might be concerned that publishing details about training data reveals commercially sensitive information.

The investigation might include examining the data used to train an automated system to check for bias.

### EXAMPLE

The insurance company is required to publish information about the training data they use to calculate quotes.



Companies should publish training data to make it easier to investigate how automated systems work.

This prototype is inspired by an academic paper in favour of making companies publish training data to increase accountability.

POWELL, 2018, ALGORITHMS, ACCOUNTABILITY AND POLITICAL EMOTION: ON THE CULTURAL ASSUMPTIONS UNDERPINNING SENTIMENT ANALYSIS