

Carol drives a red car



Beginning the conversation around
ethically aware decision making



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Hello!

I am **Simon Aubury**

Principal Data Engineer @ ThoughtWorks



Car Insurance



Congratulations on your new job

.. which is to help us price risk



What is Carole's premium?



$$\text{Premium (\$)} = \text{Risk (\%)} \times \text{Value (\$)}$$

- Features
- Algorithms

Easy to determine

A little bit harder to work out



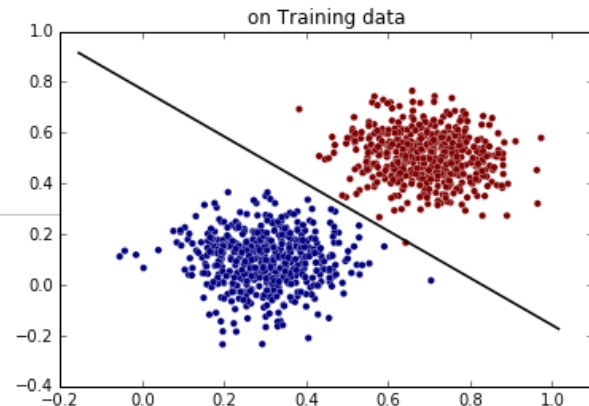
What data for our calculation?

Who	Gender	Car	Model	Colour	Email	Postcode	DOB	Risk
Alice	a	Holden	Barina	Blue	alice@hotmail.com	2000	12/09/1990	?
Bob	b	BMW	5s	White	bob@gmail.com	2010	8/02/1972	?
Carole	c	Toyota	Carola	Red	carole@yahoo.com	2115	9/05/1998	?
Derek	d	Honda	CRv	Brown	derek@aol.com	2069	5/03/1985	?



Let's use **machines!**

- ◎ DDD Insurance has 20 years of data
- ◎ We can use ... algorithms!



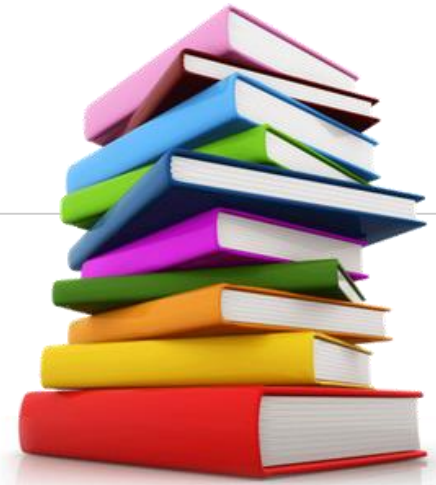
1

Data != Truth

Don't presume the desirability of AI






Is there a bias?






Is there a **bias?**



Translate Turn off instant translation


English German Spanish Malay - detected




German English Russian

Translate

dia adalah doktor
dia adalah parajurit
dia adalah profesor
dia adalah pelacur
dia adalah jururawat
dia adalah pembantu rumah

124/5000



2

Understand the limitations of the data

and remember to treat data as a liability



Expectations of fairness

A photograph of an application form titled "Application Form" in large pink letters. Below the title, instructions are written in black text: "Please fill in ALL the boxes below in BLOCK CAPITALS using black ink." and "If you miss something out it might delay your application." A pink rectangular box highlights the phrase "using black ink." A silver and black pen is positioned diagonally across the form. Below the instructions, a purple header reads "Step 1 - Your personal details". The form contains several input fields: "Title", "Surname", "Middle name", "First name", "Date of birth", and "Are you? Male" with a checkbox, and "Female" with a checkbox. The word "Remember to read the Agreement conditions booklets enclosed and the" is partially visible at the bottom of the highlighted instruction box.

Application Form

Please fill in ALL the boxes below in BLOCK CAPITALS using black ink.
If you miss something out it might delay your application.
Remember to read the Agreement conditions booklets enclosed and the

Step 1 - Your personal details

Title Surname Middle name
First name Date of birth
Are you? Male ☐ Female ☐

3

Respect privacy

Be aware of relevant legislation



Design the User Experience

Sex

☐ male

☐ female

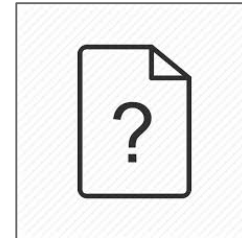
Your responses to these questions will be kept private.

Why do we ask for this info ?

Birth Month and Year

Gender ☐ Male ☐ Female

Country





Is it even legal?

EU Gender Legislation

Information centre

News

Press releases

About us

Contact us

Our partners

What is it and what does it mean?

The gender directive contains a requirement across the EU for equal treatment between men and women. Following a European Court of Justice ruling in March 2012, an exemption which previously allowed gender specific pricing for insurance contracts because of statistical differences in risk was removed. As a result, from **21 December 2012**, insurers can no longer consider gender when calculating an insurance quote or any benefits.



Do you **drive drunk?**

Do you answer “yes” to any of these?

Short-list group

- Have you ever been abroad?
- Have you ever used a taxi?
- Have you been using a plane this week?
- Did you wash your car this week?

Long-list group

- Have you ever been abroad?
- Have you ever used a taxi?
- Have you been using a plane this week?
- Did you wash your car this week?
- Have you ever been driving a car although you had drunk too much alcohol?

4

Be transparent & accountable

Consent framework and expectations of fairness



Meaningful consent?

Email address

Password

☐ I have read and agree to the [privacy policy](#), [terms of service](#) and [community guidelines](#).

Sign up



Expectations of **fairness**

● example@**hotmail**.com

● example@**gmail**.com

The screenshot shows the Express website. At the top is the Express logo with the tagline 'Home of the Daily and Sunday Express'. Below the logo is a navigation bar with links: HOME, NEWS, SHOWBIZ & TV, SPORT, COMMENT, FINANCE. A secondary navigation bar includes: LIFE, STYLE, HEALTH, GARDEN, CARS (highlighted in red), PROPERTY, FOOD, TECH, DIETS. Below the navigation bar is a breadcrumb trail: Home > Life & Style > Cars. The main headline reads: 'How your email address could increase your car insurance premium'. Below the headline is a sub-headline: 'DRIVERS are being warned that their car insurance premium could cost more depending on what type of email they use.'



Expectations of fairness



MONASH UNIVERSITY ACCIDENT RESEARCH CENTRE REPORT DOCUMENTATION PAGE

Report No.	Date	ISBN	Pages
262	May 2007	0 7226 2222 2	20
Title: An Investigation into the Relationship between Vehicle Colour and Crash Risk			

Author(s): Stuart Newstead & Angelo D'Elia

Sponsoring Organisation(s): This project was funded as contract research by the following organisations: New South Wales Roads and Traffic Authority, NRMA Motoring and Services, Royal Automobile Club of Victoria, Transport Accident Commission, VicRoads.

Abstract:

This study has assessed the relationship between vehicle colour and crash risk through the analysis of real crash outcomes described in mass crash data reported to police in two Australian states. A stratified induced exposure study design was employed identifying vehicle to vehicle crashes and crashes involving unprotected road users as those having a risk dependent on vehicle colour whilst exposure was induced from single vehicle crash involvement. Analysis was stratified by vehicle type, light conditions and jurisdiction of crash.



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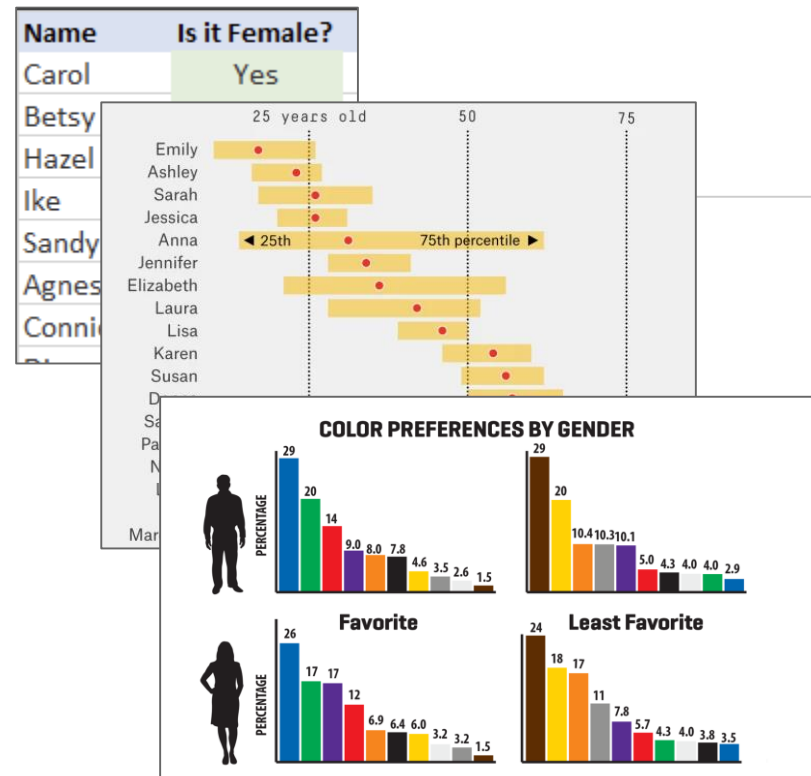
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Carol drives a **red** car

- Even if we don't explicitly set out to capture the data; there's implicit relationships in our feature set





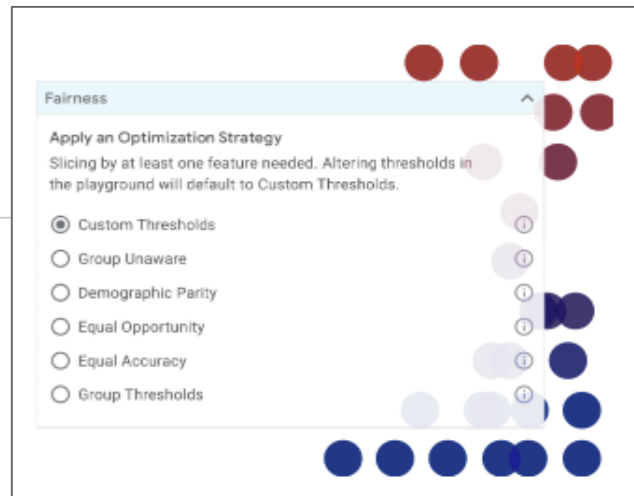
What now?

You don't need invent it all



Playing with AI fairness

- Google's ML diagnostic tool lets users try different types of fairness
- <https://pair-code.github.io/what-if-tool/>





Ethical OS

- ◎ Toolkit of
 - Checklists
 - Scenarios
 - Future-proofing strategies
- ◎ <https://ethicalos.org/>





ODI Data Ethic Canvas

- A high-level framework for assessing the ethical implications of any project
- <https://theodi.org>





Open and community sourced TOS

- Lemonade - open source insurance policy
 - <https://github.com/lemonade-hq/policy-2.0>

5 Open ✓ 12 Closed		Autho
1	Firearm Liability Coverage	#29 opened on 7 Jun 2018 by coverageguy
1	Liability Coverage for Insured's Bodily Injury/Property Dam	#27 opened on 6 Jun 2018 by coverageguy
1	Separate and Define "Bodily Injury" and "Property Damage	#26 opened on 6 Jun 2018 by coverageguy
1	Commercial Arbitration Rules vs. Consumer Arbitration Rul	#20 opened on 21 May 2018 by craiglinton
1	Clarification about injury liability when subletting or short	#17 opened on 19 May 2018 by kslays

“Those who have the privilege of creating products have the responsibility of defining ethical effects, as well as forecasting effects and ensuring that they pose no significant harm.”

Kat Zhou

“



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Thanks!

Any **questions** ?

Presentation template by SlidesCarnival

This Presentation

