



CENTRE FOR
Artificial Intelligence
and Public Policy

*Te tari Rorohiko Atamai,
Kaupapa Here Tūmatanui*

Five surprising things about the way artificial intelligence will change work

James Maclaurin

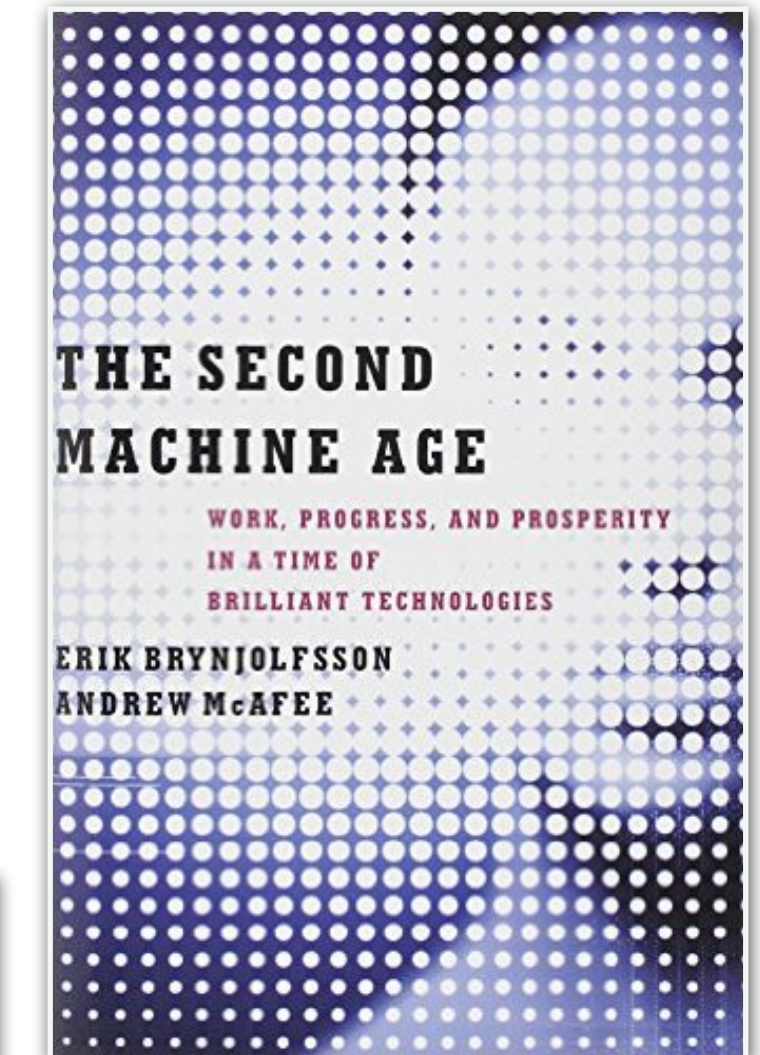
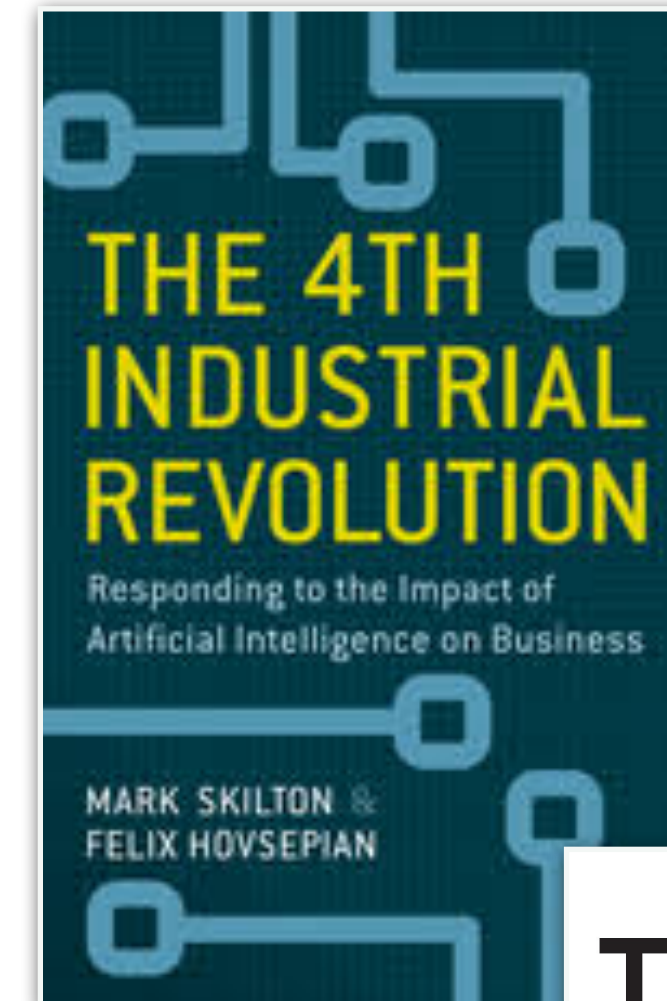
Centre for Artificial Intelligence and Public Policy at the University of Otago
Artificial Intelligence and Law in New Zealand Project funded by the New Zealand Law Foundation



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How should we think about Artificial Intelligence?



Artificial Intelligence as a 4th Industrial Revolution

Economic
Opportunity

Enhanced
quality of life

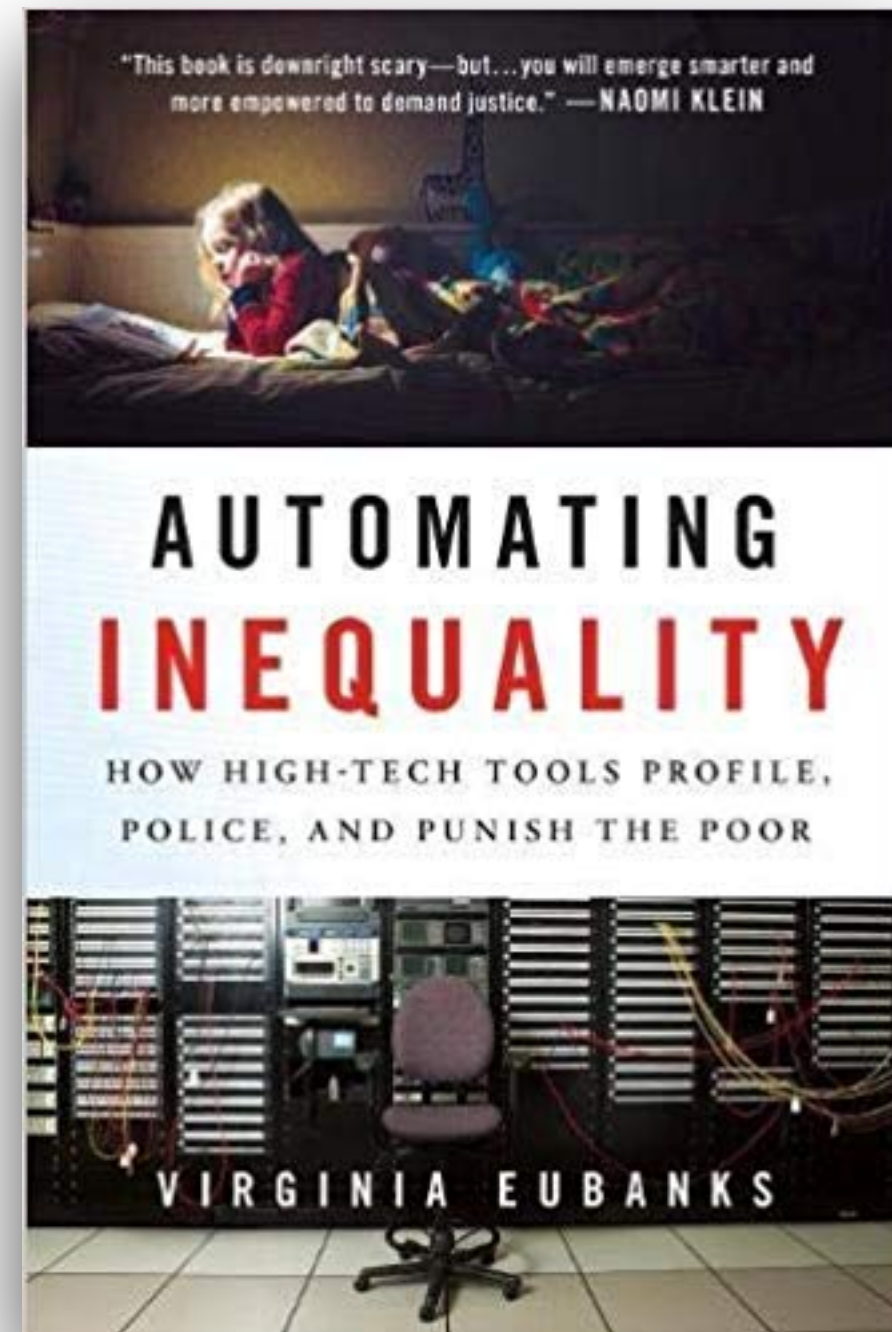
Dislocation / skills mismatch

AI outpacing labour law

Inequality / instability



Now is a good time to talk...



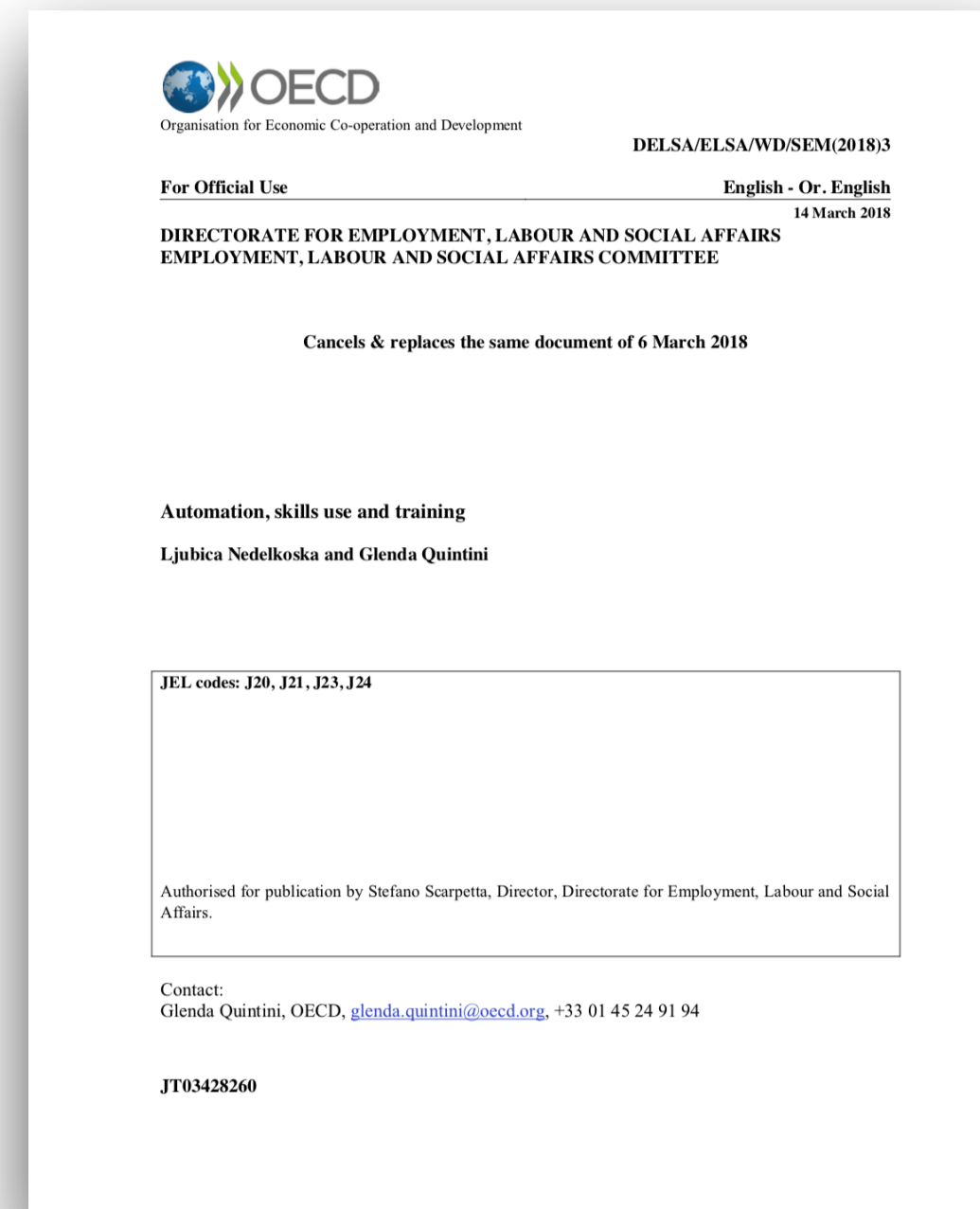
Disappearing jobs



Frey and Osbourne:
The future of employment
(47%)



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OECD: Automation,
skills use and training
(14%)



McKinsey: A
future that works
(5%)



Can we predict the disappearance of jobs?

Churn

Demand

Scientific
Progress

Commercialising
Science

Social Change

Economic
Change



Surprising fact # 1

We don't know and likely cannot usefully predict how many jobs there will be in 20 years' time and what those jobs will look like.



Technological unemployment



John Maynard Keynes — “technological unemployment is a temporary phase of maladjustment”

In popular debate, the number of people made unemployed is often conflated with the number of jobs that will cease to exist.



What effects might AI have on work and jobs?

Earnings/GDP

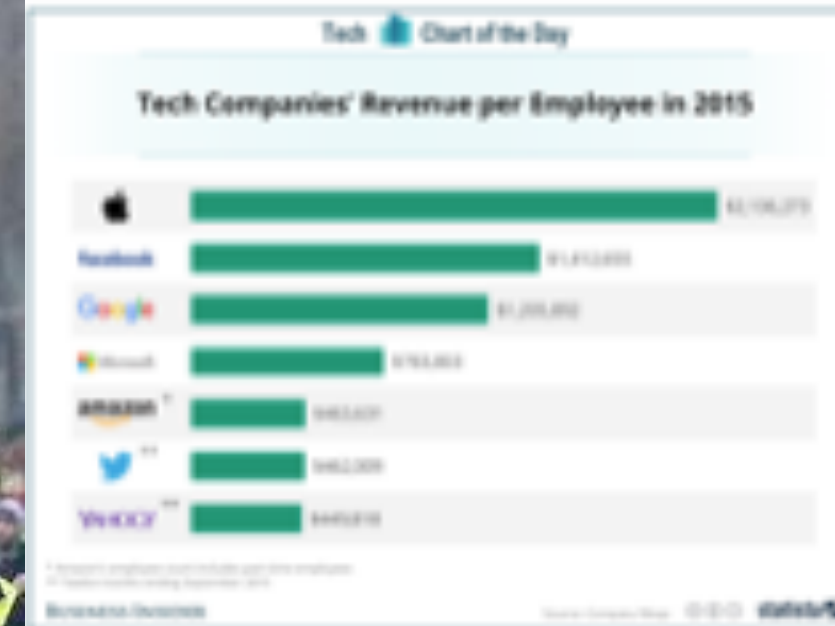
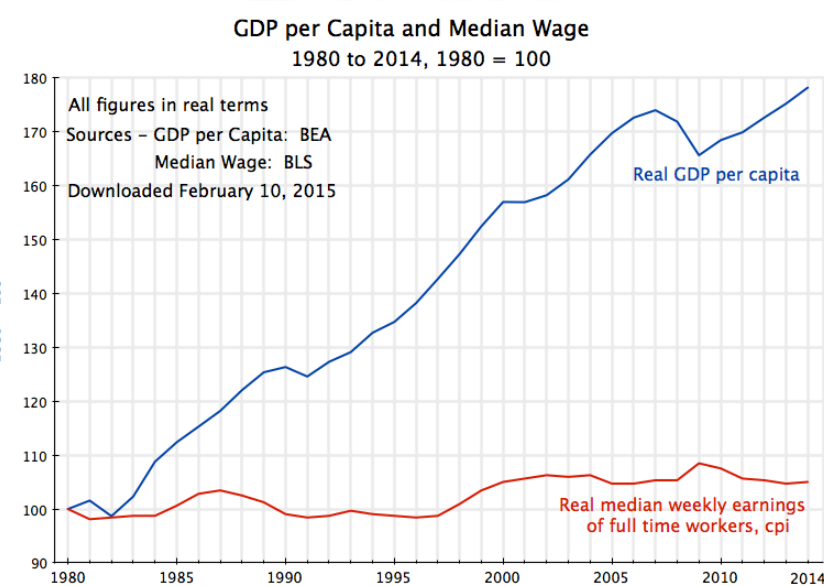
Inequality

Social Mobility

Availability of jobs

Underemployment

Changes in the nature of jobs



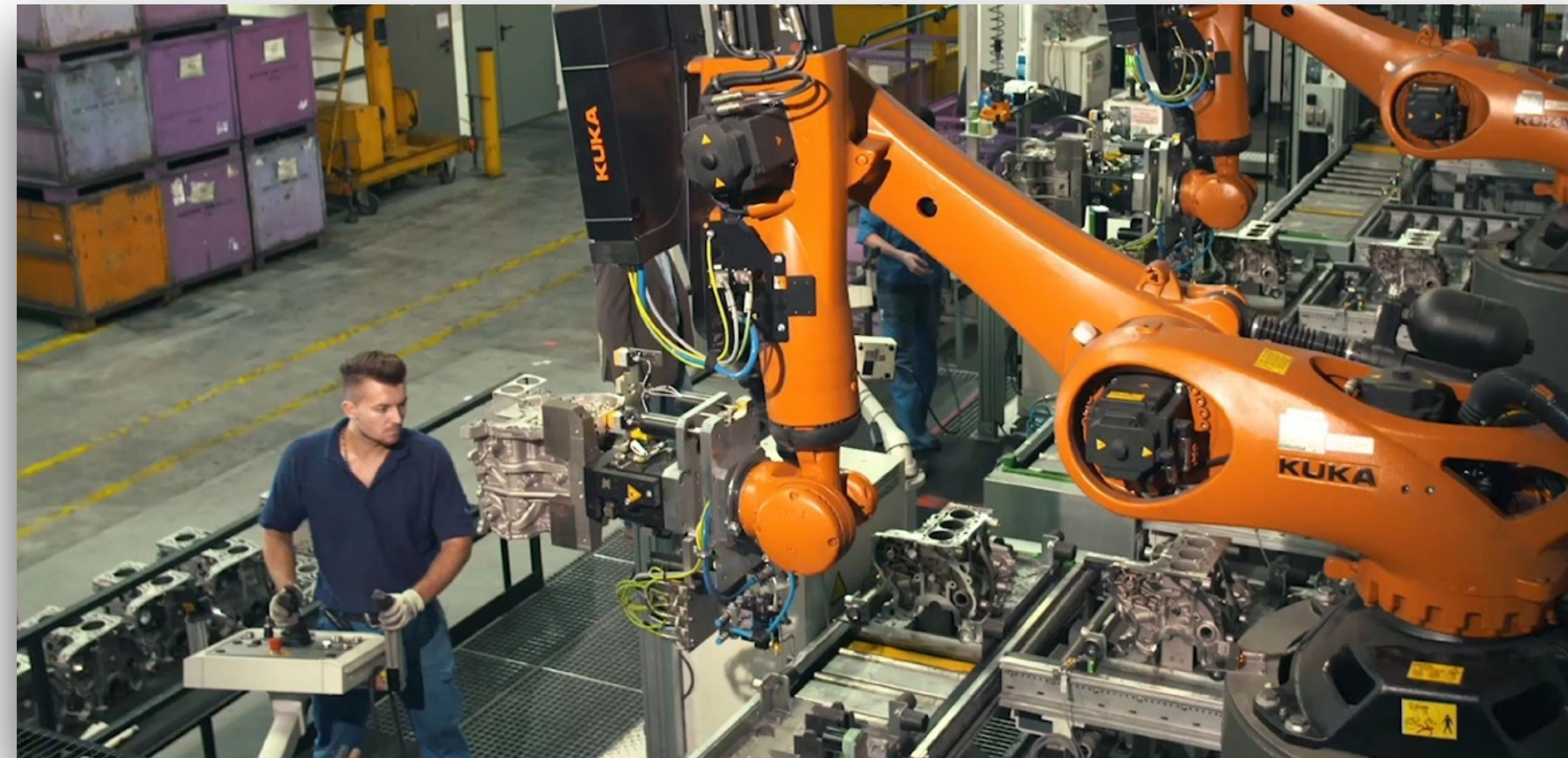
Surprising fact # 2

Knowing how many people have jobs in 20 or 50 years' time might be surprisingly uninformative.



Frederick Winslow Taylor

Invented the idea that we can scientifically determine the most efficient way of dividing up the production of goods and services into discrete tasks.



Machines are good at some tasks and not others and they are cheaper than people, so Taylorisation results in people doing the jobs that AI can't do.



Two automation scenarios

AI for legal discovery



AI for medical diagnosis



IBM Watson Health



Surprising fact # 3

AI will change many jobs in surprising ways.



AI is bad at



AI is good at



What does this tell us about jobs in New Zealand?



- 68 occupations, ~620,000 workers**
Solicitors | Scientists | Architects | Policy analysts
- 57 occupations, ~580,000 workers**
Real estate agents | Secretaries and clerks | Event organisers | Accountants
- 78 occupations, ~560,000 workers**
Drivers | Glaziers | Gardeners | Machine operators | Forestry workers
- 48 occupations, ~430,000 workers**
Waiters | Gallery, museum, and tour guides | Telemarketers | Sales assistants
- 32 occupations, ~170,000 workers**
Carpenters and joiners | Mechanics | Aircraft maintenance engineers | Boat builders
- 26 occupations, ~150,000 workers**
Medical professionals | Veterinarians | Social workers | Pharmacists | Occupational therapists | Aged Care Workers



But we need to be careful...



Surprising fact # 4

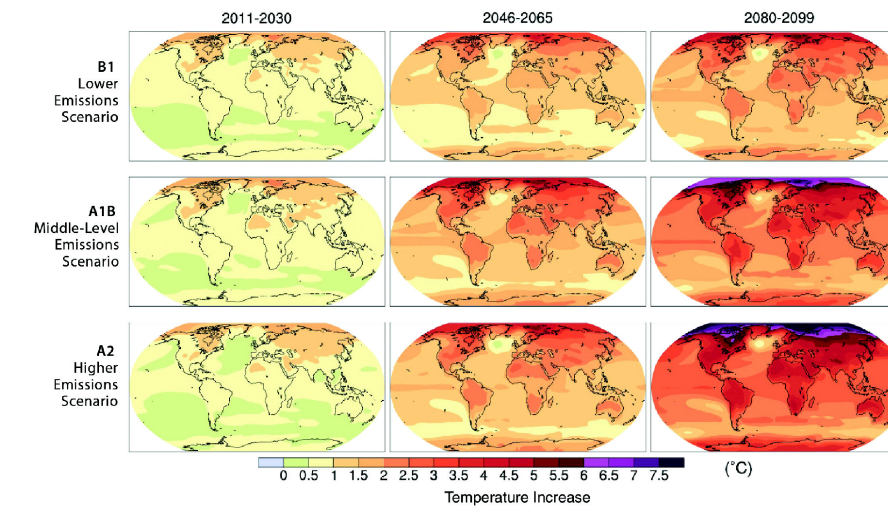
Very few jobs are likely to be unaffected by the rise of AI.

(Each will have its own story.)



Even if we can't predict the future, can we still respond to the uncertainty?

Developing and preparing for various scenarios



We can investigate sharing work, encouraging broader ownership in tech assets



Hedging our bets, developing a broadly skilled workforce

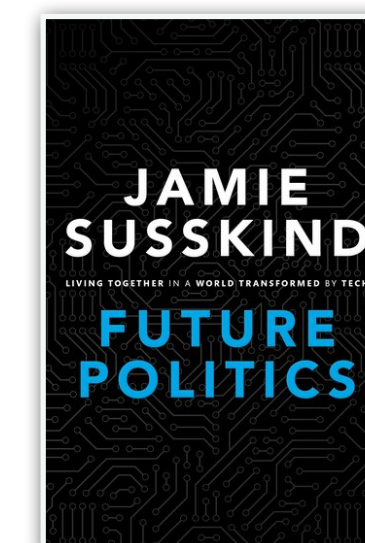
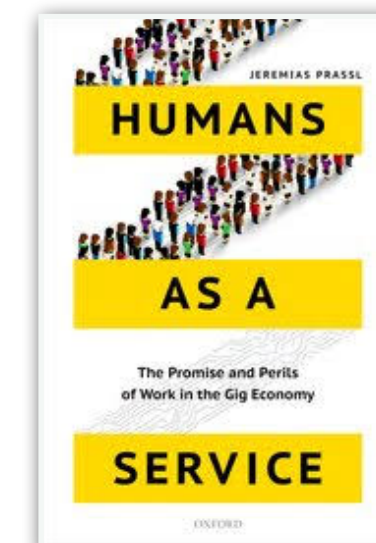
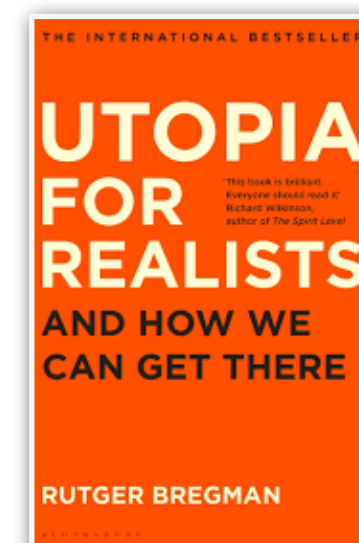
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Safety nets and AI-aware labour laws



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Surprising fact # 5

New Zealand can prepare and
New Zealanders can prosper in an AI world.

