August 2021

Judges, AI and Technology Dystopia or Opportunity?

Professor Tania Sourdin
Newcastle Law School, Australia

Judges, Technology and Artificial Intelligence

'This book focuses on how new information technologies can support judges and lawyers. It explores the extent to which technological developments might replace judges, in at least some aspects of their work. Human justice requires protection of ethical frameworks, litigant vulnerability and sensitivity to diversity. The author is aware of the limits of change. But no practitioner can be complacent about difficulties and costs of access to the law. The author challenges us to think creatively and questioningly about the status quo.'
The Honorable Michael Kirby AC CMG, Past Justice of the High Court of Australia

'For fifty years, the legal community has avoided investigating the impact that Artificial Intelligence might have on the law. Then suddenly it has become petrified that robo-justice might become the norm. Tania Sourdin is an esteemed scholar and researcher in Artificial Intelligence, technology and law. In her book Judges, Technology and Artificial Intelligence *she conducts a comprehensive excellent study of how technology is changing the way that we practice law.'*
John Zeleznikow, Latrobe University Law School, Australia

New and emerging technologies are reshaping justice systems and transforming the role of judges. The impacts vary according to how structural reforms take place and how courts adapt case management processes, online dispute resolution systems and justice apps. Significant shifts are also occurring with the development of more sophisticated forms of Artificial Intelligence that can support judicial work or even replace judges. These developments, together with shifts towards online court processes are explored in *Judges, Technology and Artificial Intelligence*.

By considering how different jurisdictions are approaching current and future technological shifts and in particular by focusing on the different approaches in the US, UK, Australia and China and elsewhere, the author draws a rich comparative exploration of justice technology trends. Judicial commentary is considered as well as the growing scholarly discourse about these trends. Ethical and user-centred design options are examined in the context of how responsive judges engage with supportive, replacement and disruptive technologies in courts.

This book explores current issues regarding the responsiveness of the justice system in the pandemic era. In addition, how technology can respond and shift justice processes is a growing field of research for judges, scholars, students and justice commentators. It provides a much-needed resource on an increasingly important topic.

Tania Sourdin is Professor of Law and Dean at the University of Newcastle, Australia.

Cover image: 'Pre Traumatic' 11, generated by an artificial intelligence developed by ART AI. You can find more artworks on their website at artaigallery.com.

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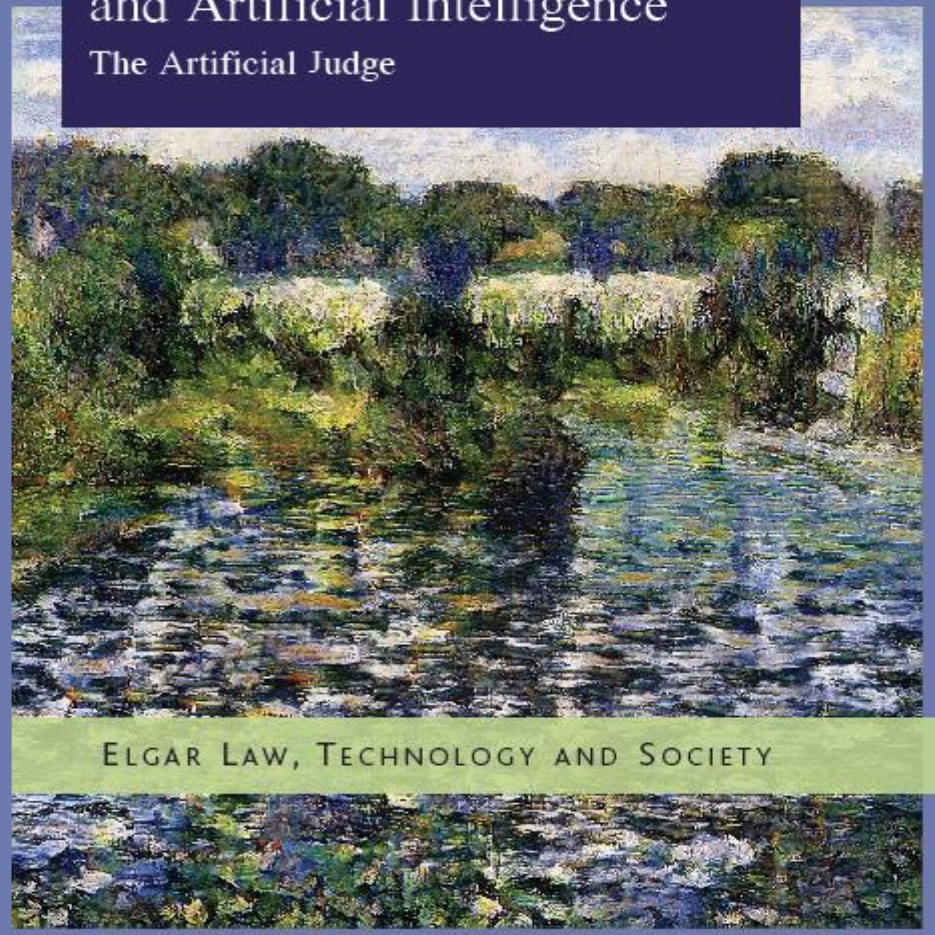
Judges, Technology and Artificial Intelligence
The Artificial Judge



ELGAR LAW, TECHNOLOGY AND SOCIETY

Change »

Three Levels of Change

Mainly lower levels of change for the next 5-10 years

Supportive Technology

Technology is assisting to inform, support and advise people involved in justice activities. Remote conferences, vid hearings, apps, websites, info, e – forms, justice café.

Replacement Technology

Technology is replacing functions and activities that were previously carried out by humans. Case management, letters, listing, sharing, TDRS, ODR, Modria add ons. See BC. Apps again! Platforms and supportive apps.

Disruptive Technology

Technology is changing the way that determinative, advisory and facilitative processes work and informing system reform through the use of big data sets and more complex knowledge generation. AI replacing some decision making. AI and analytics. Apps again!

Connectivity

More connected devices than toilets

What is Driving Change?

The Digital Age

We are more connected than ever before…

Large percentage of population are online – all the time – COVID shifts

Scope and potential for EDR and related ODR in modern online environment – cost and time

EDR and ODR are being used in a wider range of disputes – convenience and user comfort

Significant obstacles in justice reform

What happens when judicial reform 'clashes' with disruptive technology?

Rapid changes in service delivery (e.g. Uber) gives rise to unexpected results

UK reforms, BC reforms, EU reforms

Need for Reform

How will judicial processes change in the era of technological disruption?

Changes

15

iPhones – smart tech

27

COURT TECHNOLOGY

23

Modem - https://www.youtube.com/watch?v=gsNaR6FRuO0

35

SUPPORTIVE

9

Textual Analysis

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AI USING BRANCHING TECH

8

SOPHISTICATED AI

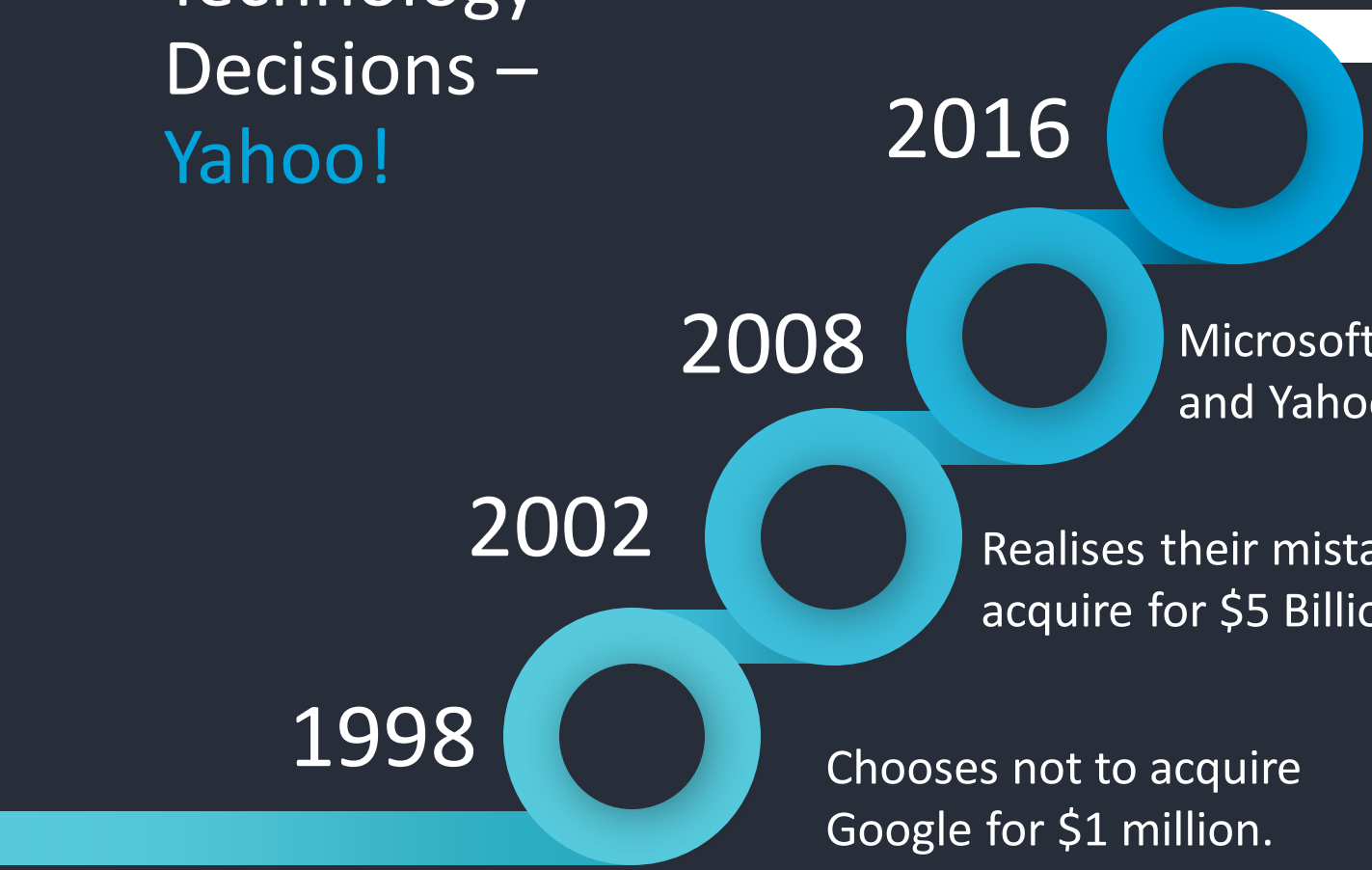
7

WEARABLE TECH

?

NEXT DECADE?

Not so good Technology Decisions – Yahoo!



1998 Chooses not to acquire Google for $1 million.

2002 Realises their mistake and offers $3 Billion. Does not acquire for $5 Billion (Google now worth $927 Billion)

2008 Microsoft makes a $40 Billion offer to buy Yahoo and Yahoo declines.

2016 Yahoo accepts a $4.48 Billion purchase from Verizon.

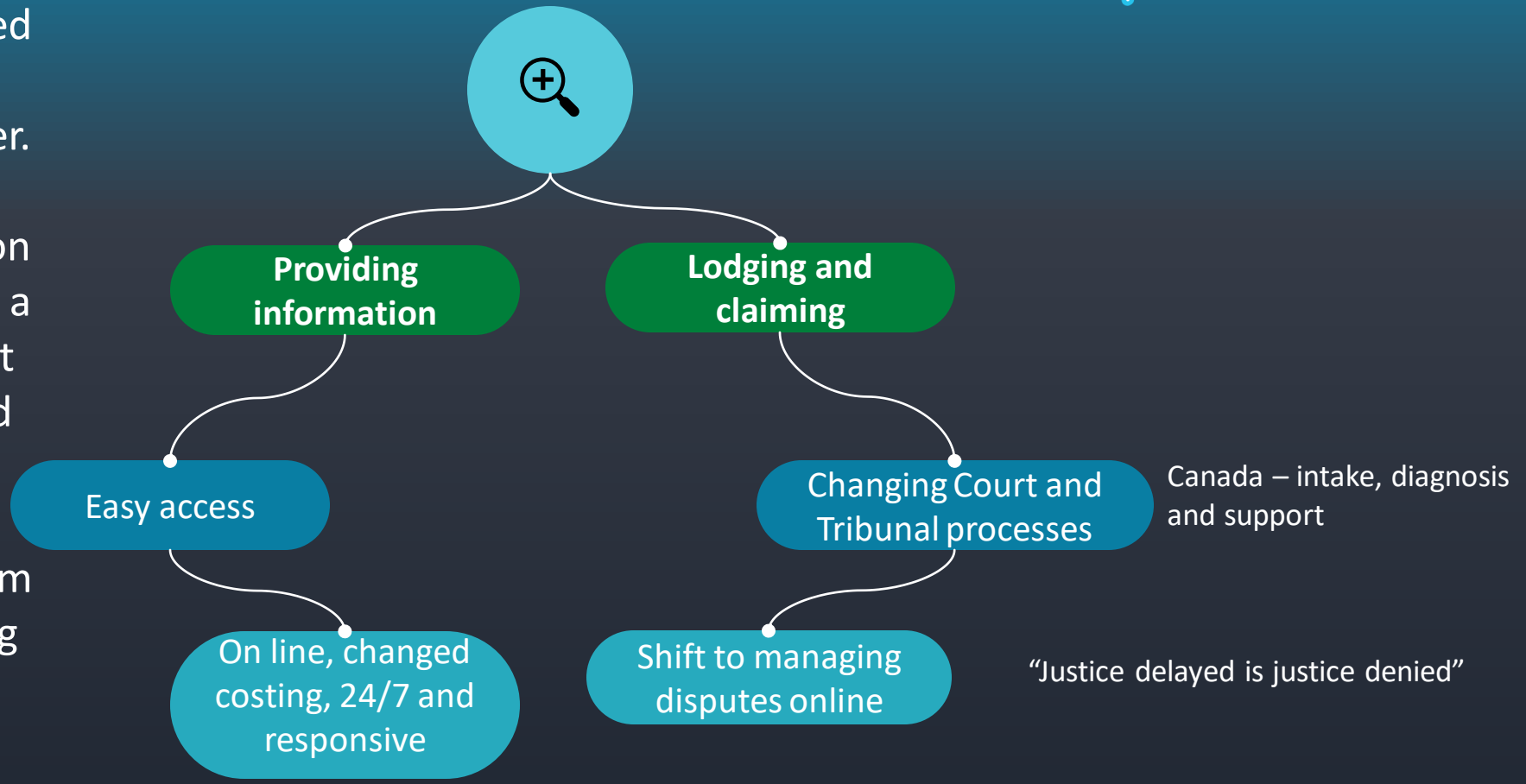
Supportive Technology

Low level changes for the next 5-10 years

In 2008, entrepreneur Charley Moore founded online legal services provider Rocket Lawyer.

It now boasts 30 million users. Subscribers pay a monthly fee for instant access to pre-prepared documents and tutorials, as well as online legal advice from experts at participating firms.

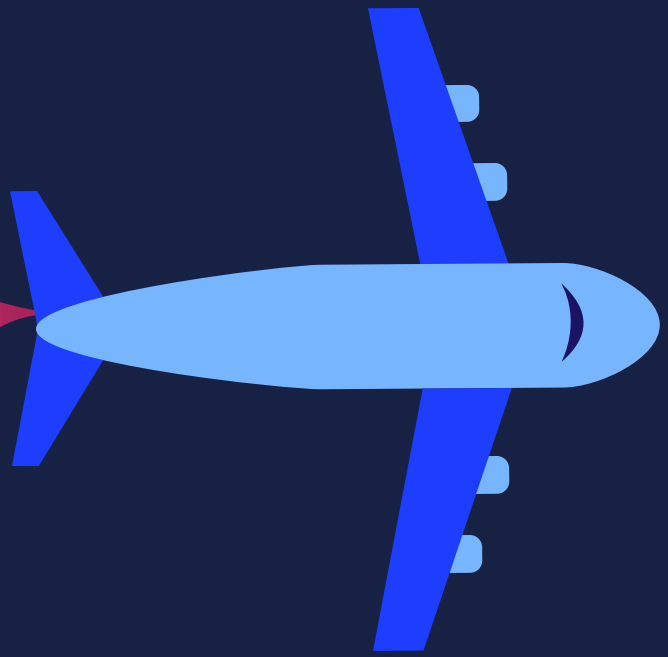
In 2020 a number of regulatory sandbox programs set up.



Canada – intake, diagnosis and support

"Justice delayed is justice denied"

No need to travel



Second Level of Change

Replacement Technologies

Significant Growth

Large Scale ODR

Modria – More than a billion disputes (Tyler – Modria). Chatbot plus systems.
Virtual assistant to bot.

E-Courts & E-Arbitration

US, Canada and UK. Sometimes linked with the big providers. HMOC.
E Discovery

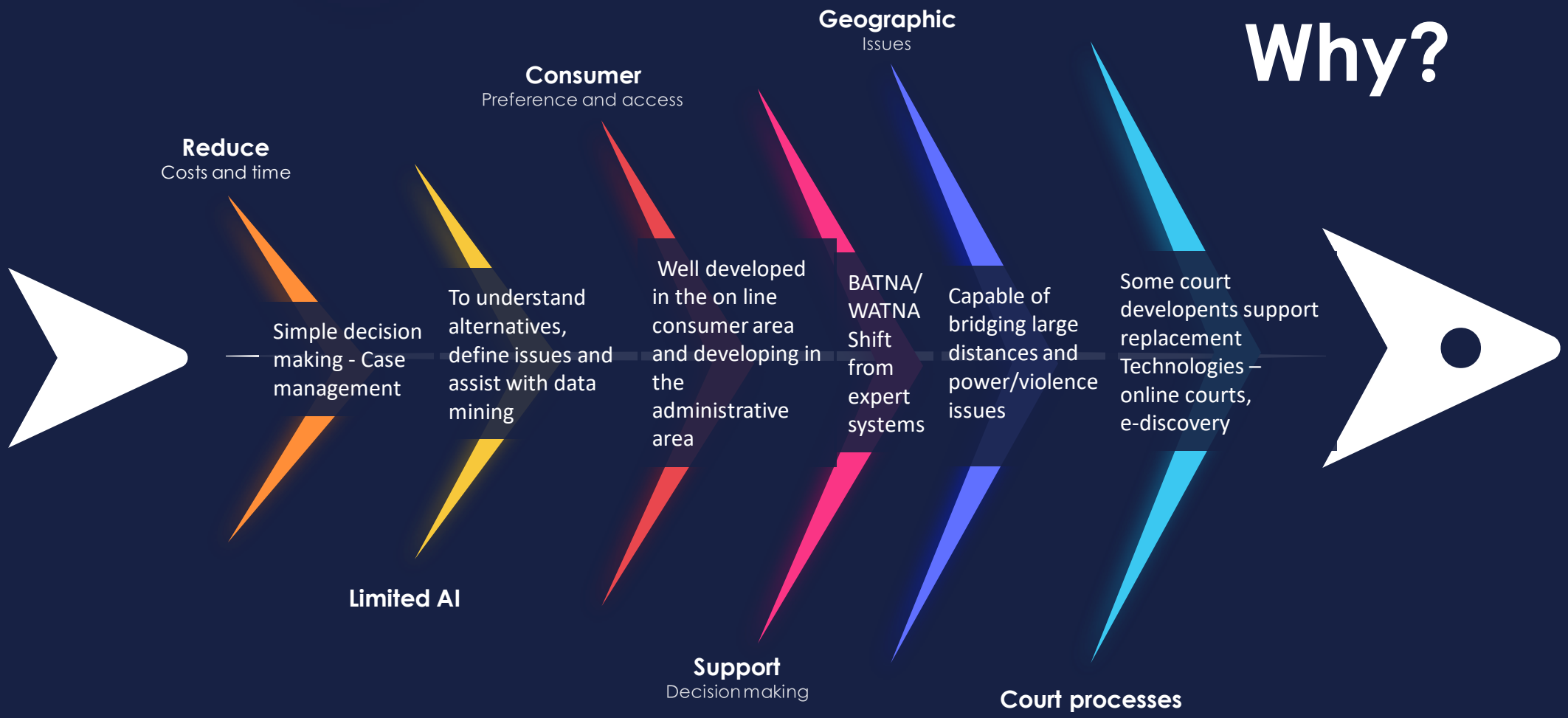
Boutique Providers

Guided Resolution – Adieu.
Apps, apps and more apps – Over 280 justice / ADR apps

Govt Initiatives

Administrative decision making, Robodebt, visa plus policy eg, EU changes rolled out from the beginning of 2016

Second Level of Change



Third Level of Change

Disruptive Technology

Disruptive Technologies can help, hinder and will change

Possible Benefits

Technological change was intended to provide many benefits. More access, ease of management but stress, disconnection issues and increased hostility issues.

Job Loss

Many jobs will not exist in the same way in 10 – 20 years. Although the jobs may exist they will be 'altered.' Significant social disruption and changes in courts.

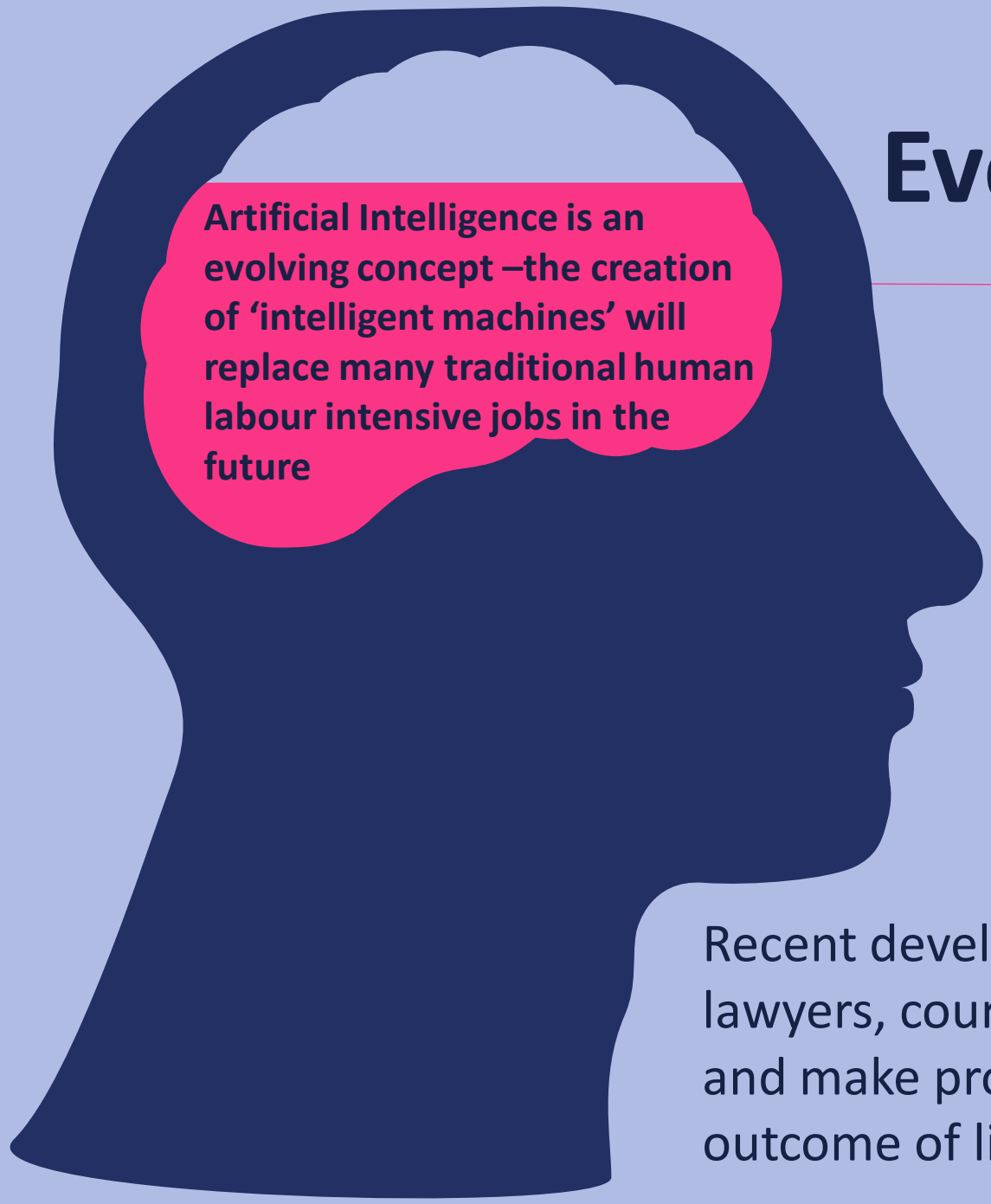
Threats to Privacy

Significant threats to privacy. Justice systems have not yet grappled with this (social credit scores). How are litigants behaving? Use of recordings now common in family disputes.

Loss of Social Interaction

What do the new ways of communication mean for social interaction? What does happen when rapport is created? Apology by text? Alexa or Siri?

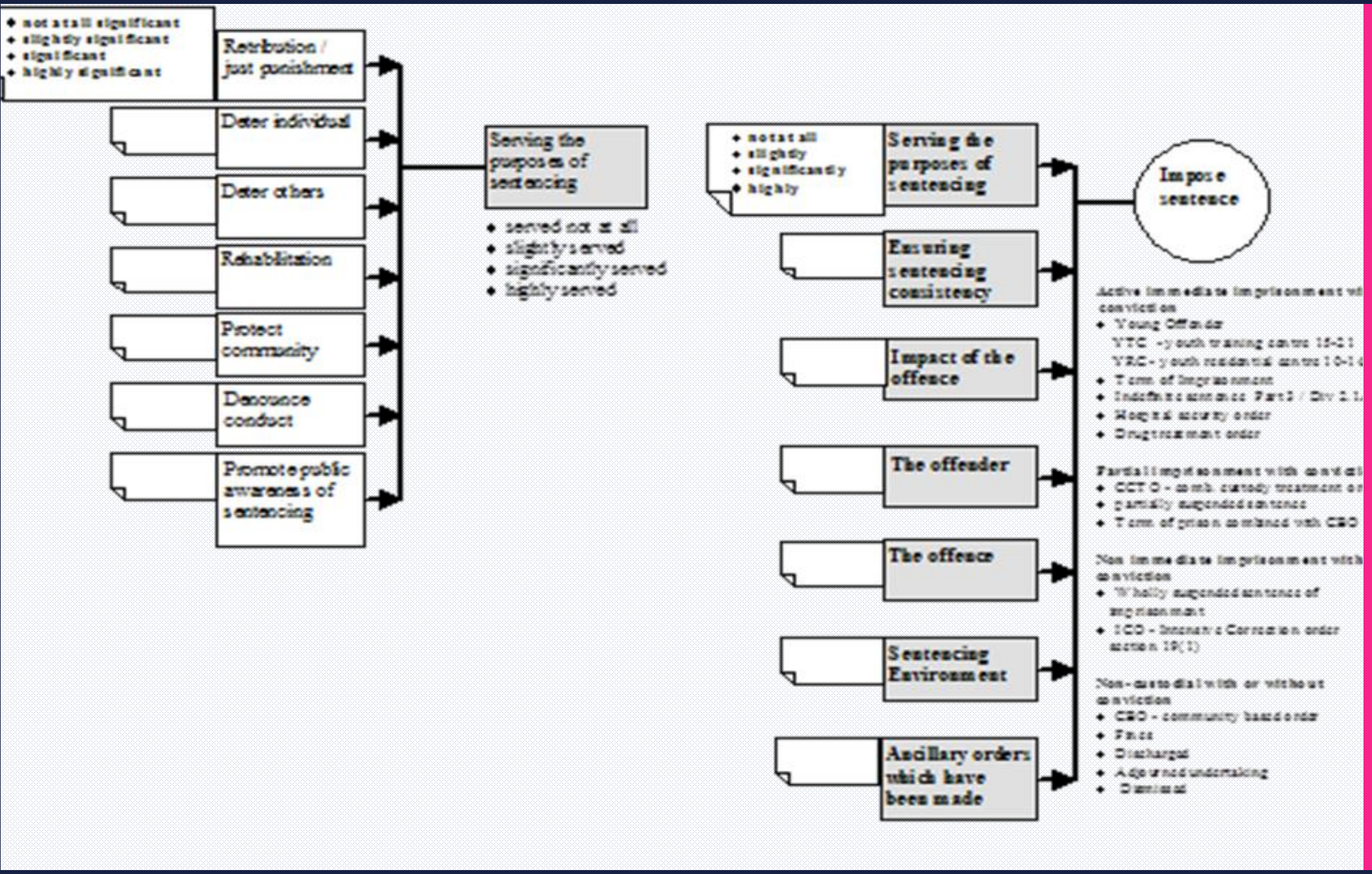
Evolution of AI



What will a judge look like in 10, 20 or 30 years' time?

- Role of AI in judging – to support, replace or disrupt judicial processes?
- What impact will AI have on adjudicative processes?

Recent developments indicate that there is a change in how lawyers, courts and others use technology, shifting to enhance and make processes more time efficient and predict the outcome of litigation.



AI

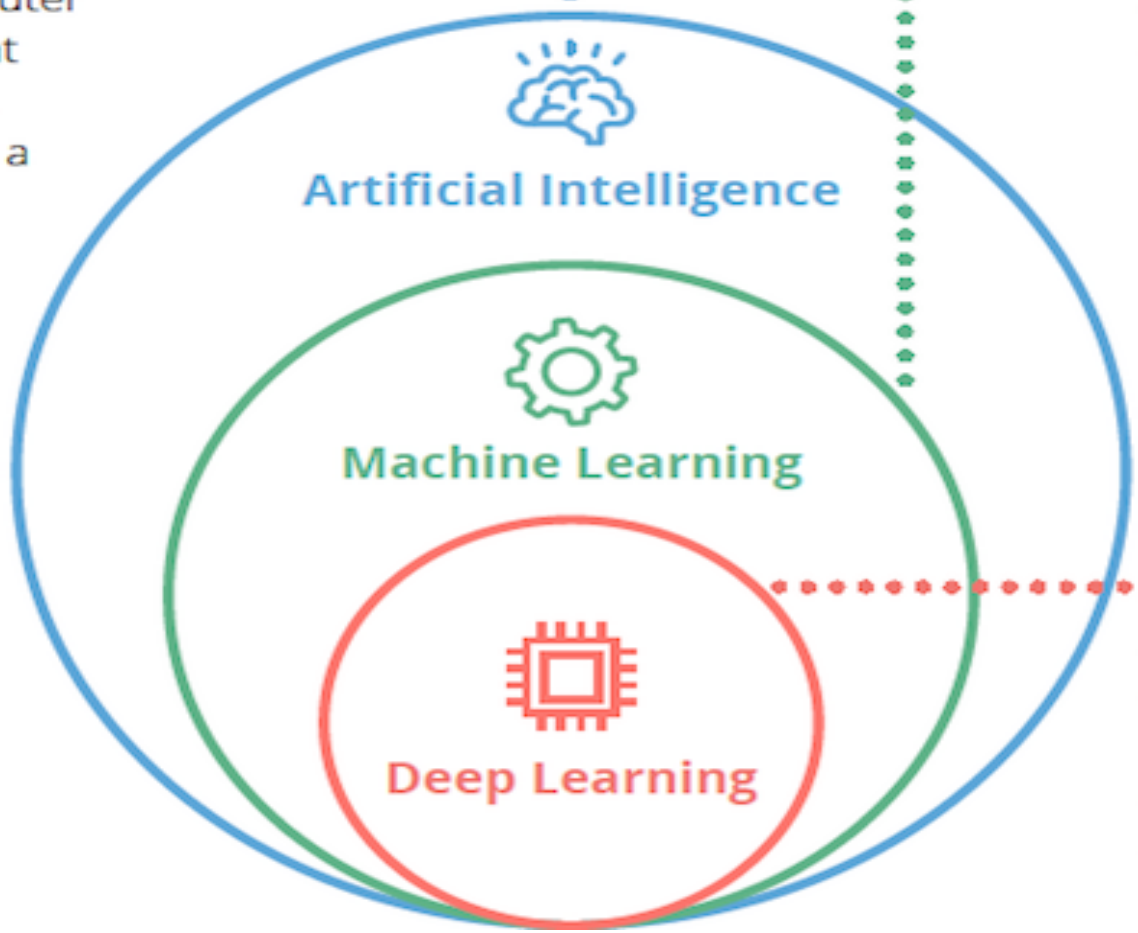
– At the Simple Level

What Makes a Machine Intelligent?

While AI is the headliner, there are actually subsets of the technology that can be applied to solving human problems in different ways.

Artificial Intelligence (AI)

A process where a computer solves a task in a way that mimics human behavior. Today, narrow AI – when a machine is trained to do one particular task – is becoming more widely used, from virtual assistants to self-driving cars to automatically tagging your friends in your photos on Facebook.



Machine Learning (ML)

Algorithms that allow computers to learn from examples without being explicitly programmed.

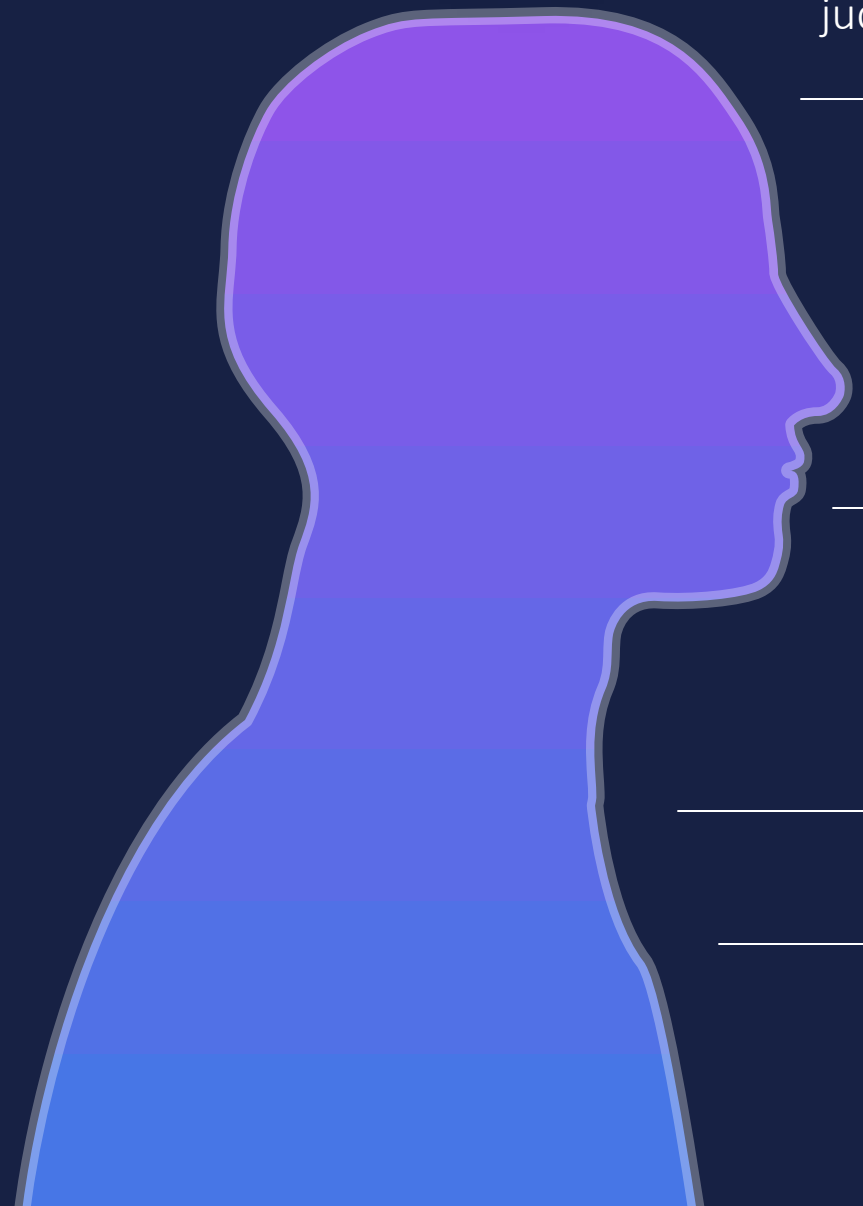
Deep Learning (DL)

A subset of ML that uses deep artificial neural networks as models and does not require feature engineering.

Artificial Intelligence

Role of Judges in the Era of Technology

The increasing use and development of AI leads to the question: Will some judges be 'phased out' by AI?



- Complex Interactions with people
- Case management
- Interaction with experts and lay people
- Communications and skills growth
- The importance of responsiveness

Role of a Judge It is not just 'supporting decision making'- multi tasking – democratic realities

Judges use empathy and intuition, taking into account the social factors in decision making.

These are important functions
For which AI may be both rigid and inflexible

Artificial Intelligence

Displacement

Technology will develop to a point where AI will replace some simple adjudicatory functions

Control

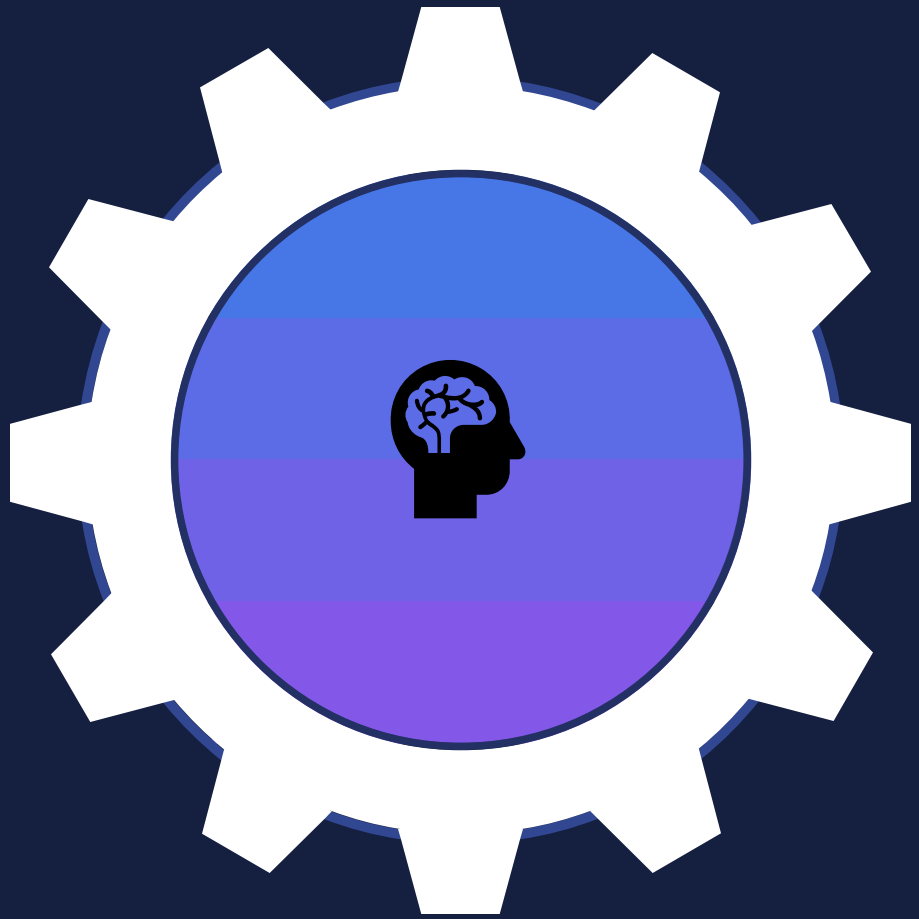
The impact of displacement will vary. Judges are likely to stay in control in most democratic countries.

Issues Remain

- Legality of decisions made by 'AI"
- Translating law into code
- Discretionary judgments

Review

Will review of AI decisions by human decision makers be necessary?



Role of a Judge in the era of technology

As society moves into the era of technology, how will the role and nature of the Judge change?
How independent is a judge?
What data (decisions and other file material) can be used to train Judge AI?
Who drives reform?

Some AI Issues

1. Legal Authority

Can a computer program or automated process possess legal authority to make decisions?

Three key questions:

1. Who is the decision maker?
2. Who possesses the legal authority to make such a decision?
3. How is the decision explained (explainability)?

2. Translating Law into Code

Computer programmers and IT professionals lack knowledge of the law and legal qualifications yet they are tasked with translating law into code. Significant Law as Code movement.

Law is complex, includes statutory presumptions and discretion – with coding these intricacies may prove to be a challenge.

The ever changing nature of law as a result of enactment, interpretation and amendments means constant updates

3. Discretionary Judgment

Lack of discretion may lead to unfair or arbitrary decisions with a lack of individualism, consideration of the circumstances or a lack of understanding of nuance in law ('weak' and 'strong' discretion).

Discretionary decisions need to take into consideration:

- Community values
- Subjective features of the parties
- Other surrounding circumstances

Developments in some jurisdictions may not be appropriate in others:

‘On the one hand, many local courts in China are developing a “similar cases pushing” system based on this database, which can push the judgments of similar cases to judges for reference. On the other hand, some courts have tried to develop an “abnormal judgment warning” function based on this database — that is, if a judgment significantly differs from the judgments of similar cases, the system will automatically send a warning to the judge’s superiors, prompting them to initiate a supervision mechanism on the judge concerned. At present, this function is mainly used in criminal cases to monitor whether the judge’s sentencing is reasonable’.

See Changqing Shi, Tania Sourdin, Bin Li, The Smart Court - A New Pathway to Justice in China?, *International Journal of Court Administration* (2021) and Meng Yu and Guondong Du, ‘Why Are Chinese Courts Turning to AI?’, *The Diplomat* (Blog Post, 19 January 2019) <https://thediplomat.com/2019/01/why-are-chinese-courts-turning-to-ai/> accessed 13 August 2020. See also: Li Zhonghao and Jiang Hao, ‘Anhui R & D case guide project and trial’, *People’s Court Daily* (Online, 21 June 2016) <http://rmfyb.chinacourt.org/paper/html/2016-06/21/content_113216.htm> accessed 13 August 2020.

		Judge AI factors to consider
Judge AI Triage	Has a form of AI already resulted in decision making taking place before a case has been filed with a court (or at some stage in a lower court)?	Where a form of AI has already made a decision that impacts on the human, there may be benefits in retaining human rather than AI review mechanisms. For example, in insurance and workers compensation matters, AI may already be 'making decisions' and determining liability. Any pre action AI decision making is an important factor in determining whether human judge referral is more appropriate.
	Could one or more of the parties be regarded as vulnerable?	This is a multidimensional concept that may include the individual characteristics of the parties as well as external factors that may impact on vulnerability. For example, a person may be vulnerable for short periods of time and ill health, job loss, grief and other factors (including high levels of stress and a lack of technological 'know how', digital literacy and capacity) may impact on vulnerability and mean that Judge AI is not appropriate.
	Is there a continuing relationship between the disputants?	This factor has often been considered as relevant when recommending referral to facilitative forms of ADR. This is in part because there may be additional and creative options that can be generated to resolve a dispute where a continuing relationship is present (for example, a new contract could be developed). Human judges may be better able to promote more creative outcomes under such circumstances and may be able to better foster communication that will be necessary to support the continuing relationship.
	Is the human judge bound by 'weak' or 'strong' discretionary arrangements?	Where human judges have more discretion (strong discretion), there is arguably less capacity for Judge AI to replicate more creative human judging and the development of the law might be impeded should Judge AI be used.
	Are there high levels of complexity or novelty?	Judge AI, at least in terms of its early developmental iterations, may not be able to adequately deal with complex multiparty issues and, as discussed in Chapter Eight and Chapter Four, may be unable to effectively deal with 'novel' situations.
	To what extent are there high levels of emotion?	The author notes that in the early iterations of CRT intake questionnaires, this was suggested as a relevant factor that might lead to referral to a human. High levels of disputant emotion may not mean that Judge AI should not be used. However, this factor together with those noted above may suggest that until Judge AI becomes more 'human like' there are benefits in ensuring that human judges continue to deal with behaviourally complex cases.
	To what extent are litigants comfortable with an AI Judge process?	There may be many reasons why litigants may not be comfortable with a Judge AI process that can be linked to concerns in relation to confidentiality and commercial sensitivity. This concern may arise throughout an AI hearing process (which can involve documents be exchanged via cloud based services) and may also be related to a distrust of technology. The author notes that the CEPEJ principles provide for a right of access to a human judge.

		Levels of Abstraction					
		Individual	Interpersonal	Group	Institutional	Sectoral	Societal
Thematic Ethical Considerations and Concerns	Technical Concerns (inaccurate, biased, distorted or inappropriate underlying algorithmic processes)	Erroneous or inappropriate judgment (or other legal decision, such as an administrative decision) could take place.	There could be a loss of trust in the judge/litigant or judge/advocate relationship and the justice system more broadly; de-humanisation of justice process.	There could be an erroneous or inappropriate application of precedent to a particular group of people, cases or a particular area of law.	There could be an inappropriate use of funds or circumstances where resources are not directed to courts and organisations that are established to assist people in exercising their rights. This could, in turn, cause negative impacts on the most vulnerable.	Judge AI and AI tools could be used in areas of law where there are clear expressed some concerns or where precedent is required.	Poorer provision of justice services throughout society and either a magnification of the delays and backlogs that plague many legal systems or a decline in trust in government and justice arrangements.
	Process, Outcome and Purpose Concerns (notions of fairness, privacy and security, transparency and explainability, and contestability and accountability)	Individuals may be unable to access or assess the information used by an AI Judge to make a decision, and their ability to appeal a decision could be lost or made more difficult. See also 'Sectoral'.	There could be an overreliance on AI systems and their ability to make the 'right' decision, leading to the usurpation of the judicial role.	Throughout their lifecycle, AI systems may not be built to be inclusive or accessible and could involve (or result in) discrimination against certain groups.	AI actors may not provide meaningful information to authorize external audits or ensure stakeholders are aware of their 'interactions' with AI tools, including in the workplace.	Private data (such as social surveillance data) may be used in the making of judicial decisions. Data protection may be inadequate or principle relating to 'open' justice may not be maintained.	Societal inequalities in process, outcome and purpose.
	Human-Centred Concerns (wellbeing and human-centred values)	The design and implementation of AI tools and Judge AI could be fundamentally incompatible with human rights (such as due process rights or the right to appeal a decision). In addition, the tools may not support human wellbeing and dignity.	Preference may not be given to a 'human-right-by-design approach'. Thus the 'rules' prohibiting direct or indirect discrimination between individuals, groups or a sector of society may not be 'fully integrated'.	The systems may promote unfairness or injustice. This could, in turn, lead to a loss of human dignity and a reduction in societal wellbeing. See also 'Interpersonal'.	The autonomy, respect and independence of large-scale institutions including the courts may be lost as the development of Judge AI tools impacts on the role and function of the judiciary.	The systems may be replicated across the sector with little regard for broader impacts on human wellbeing. See also 'Interpersonal'.	Societal respect for justice process, democratic values, the rule of law and the judge's independence in the decision making process (viz. the exercise of discretion) may be lost.

Conclusion

Changing Processes

- Using technology as a medium to 'support' or supplant' processes – e.g. Apps, user friendly referral systems with automation.
- Use of 'advisory' AI to reshape new alternative understandings and potentially replace some advisory and determinative practitioners

Changing Styles of interaction

- Collaborative techniques and predictive technology to provide more support and referral avenues for disputants. AI replacing some decision making.

Improving case management, reporting and data collection

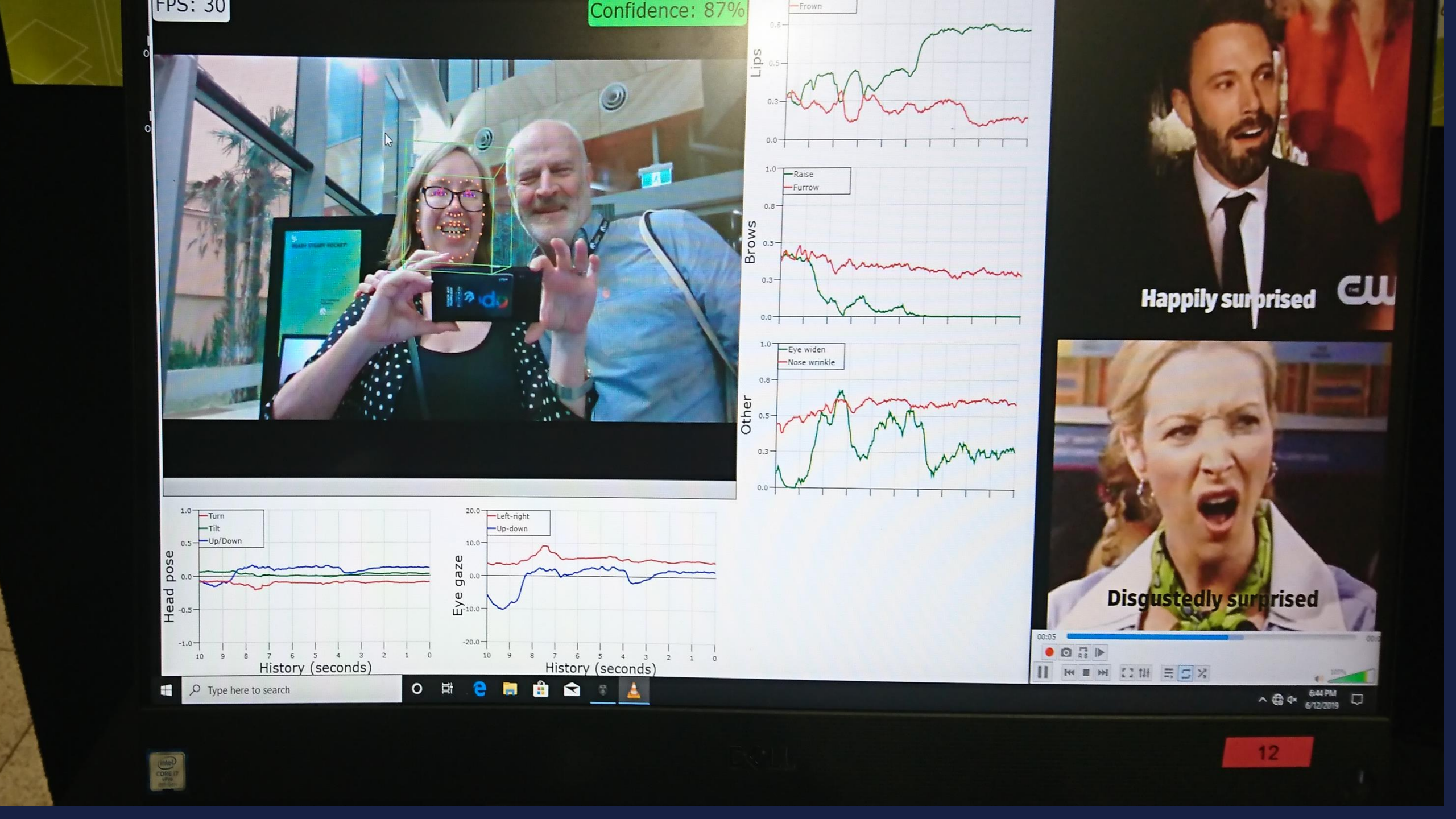
- Use of disputant-focused inputs and tracking technologies – rise of trip advisor style inputs (mapped with data preferences).

Using data in different ways (changing the nature of data retention and collection)

- Use of 'big data' to link dispute criteria and data fields or to map and promote transparency or comparability

Create new research

Micro expression tracking…. Video analytics can be achieved based on data curation, sentiment analysis, and other advanced solutions. Expressions like “happy”, “sad”, “angry”, “scared”, “surprised” or “neutral” form the basis of video analytics.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Confidence: 87%
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Frown
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Other
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Questions?

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