Artificial Intelligence and the Law

By:

DAVID WONG DAK WAH
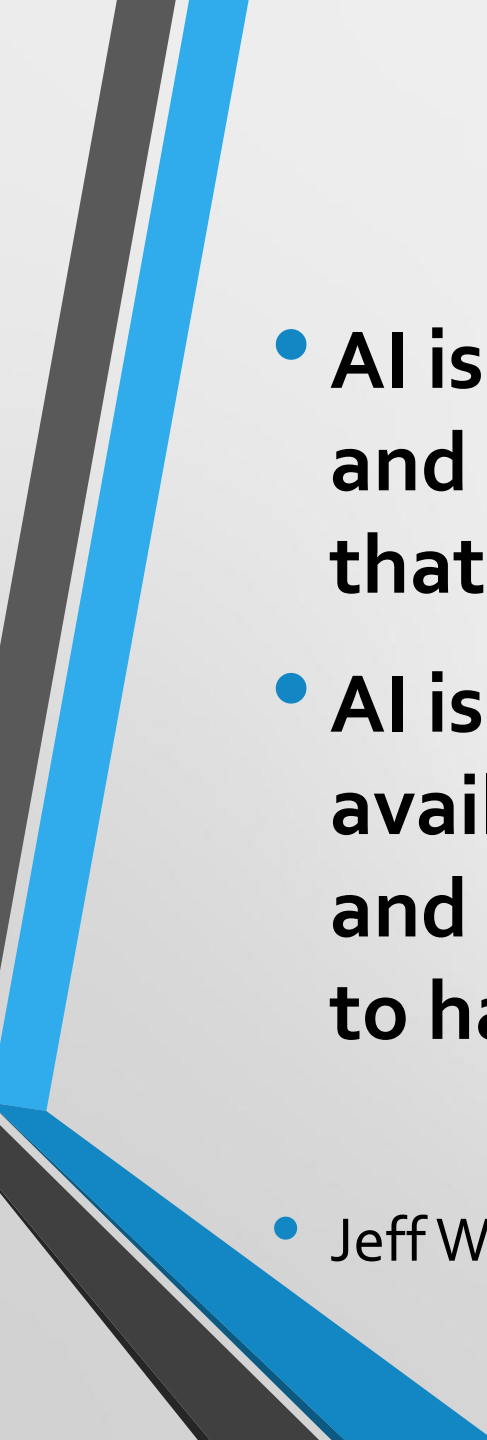
6 MAY 2020

OUTLINE

- **WHAT IS AI?**

- **USE OF AI FOR DATA SENTENCING.**

- **AI AND ITS IMPACT ON LEGAL PRACTICE.**

- **THE WAY FORWARD.**

What is (and is not) an AI?

What is?

- Specifically designed for one task

- A software built using mathematics

- Operates on a designed set of inputs and generate a designed output

- Always has room for improvements

What is not?

- An entity that grows and learns new skill

- An entity that defines its own rule

- An entity that discovers and decides what to interact with

- Always correct

- **AI is not magic. Its design, development, and deployment are constituted in ways that remain our domain.**

- **AI is not sorcery but rather the increasing availability of massive amounts of data and powerful computer processing built to handle that data.**

- Jeff Ward – 10 things a judge should know.

What is an AI drawn as a picture?

Many Inputs
e.g. conditions of a situation
requiring AI analysis

AI
Algorithm
Blackbox
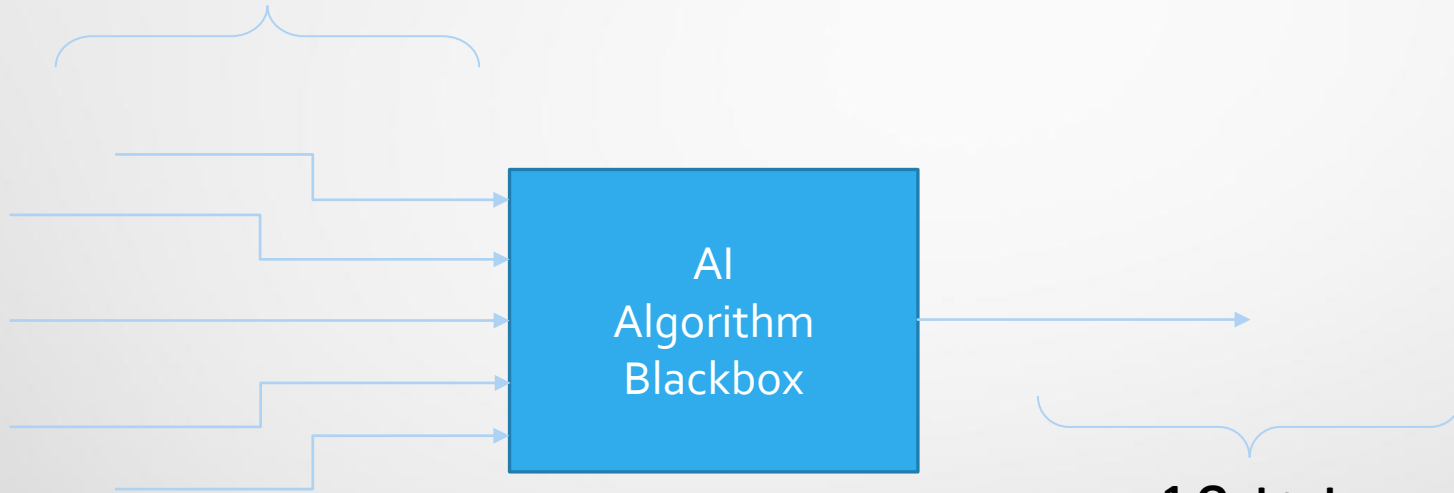
1 Output
e.g. probability of outcomes,
estimation of a value,
classifications of the situation

AI DATA SENTENCING

RATIONALE

- To achieve consistency in sentencing.

- To enhance the rights of accused.

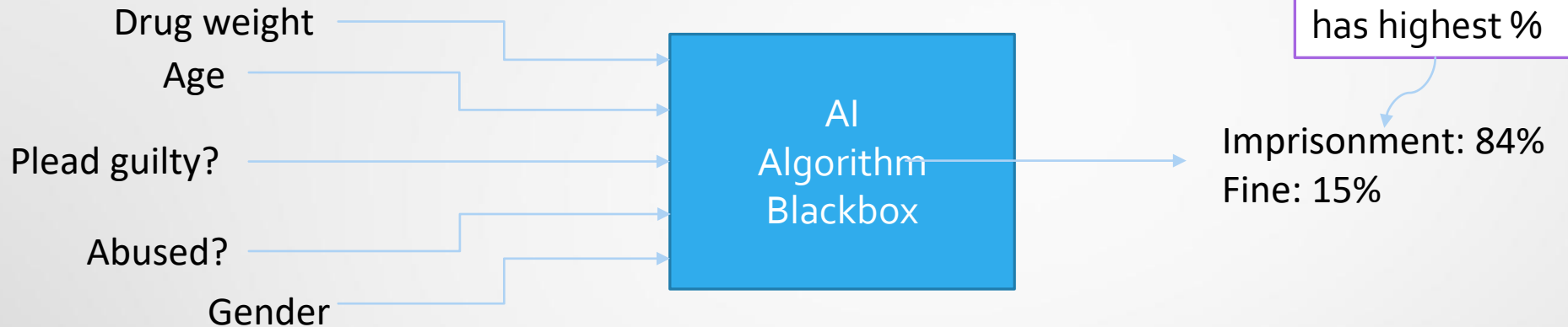- To make "access to justice" more meaningful.

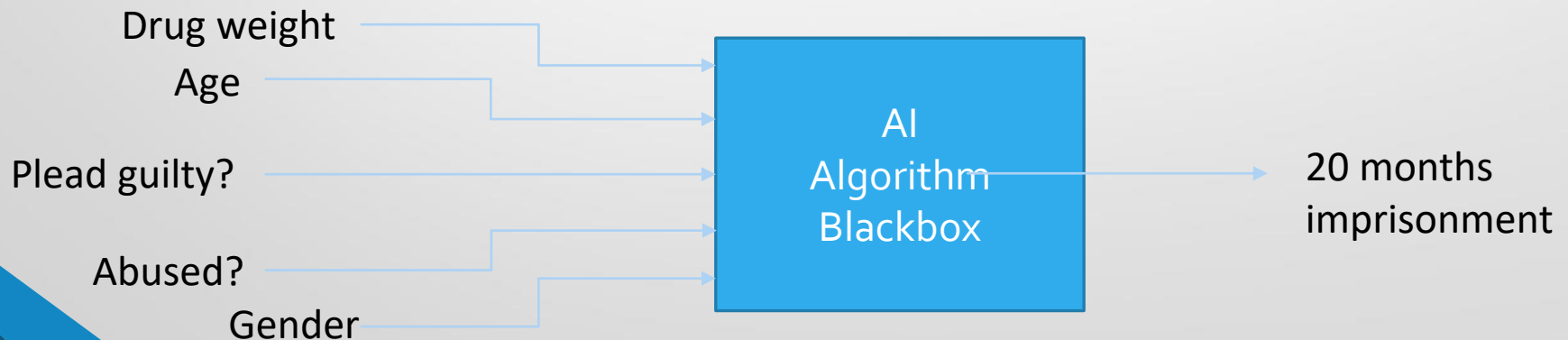# How AI is applicable to data sentencing?

Pilot

- Section 12 of the DDA 1952
  - Punishable under 12(3)
  - Punishable under 39A (1)

- Section 376 of the Penal Code

How AI is applicable to data sentencing?

Step 1: Calculate sentence probability

Drug weight

Age

Plead guilty?

Abused?

Gender

AI Algorithm Blackbox

Imprisonment has highest %

Imprisonment: 84%
Fine: 15%

Step 2: Estimate amount/period of the sentence

Drug weight

Age

Plead guilty?

Abused?

Gender

AI Algorithm Blackbox

20 months imprisonment

Data **is** Used to Train AI

| Data collection from actual sentencing | → | Data cleaning | → | AI Design | → | AI Training | → | AI Testing |

How Data Is Used to Train AI?

DDA S.12(2) Data

1) This is our data set

2) We take 80% and call it "Train" set

"Train" Set

"Test" Set

3) We take 20% and call it "Test" set

5) AI never seen "Test" set before, now it will use it to test its own understanding.

4) AI uses "Train" set to teach itself and understand the data

How Data Is Used to Test AI?

This is the "TEST" set

Drug	Weight	Plead Guilty	Age	Nationality
Meth	0.2	Yes	35	Malaysian
Meth	10	No	20	Malaysian

Sentence
Imprisonment
Fine

.
.
.

Correct!

1) AI take a look at the parameters but not the sentence
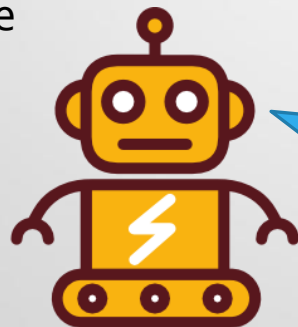
2) AI tries to decide what the sentence is

Based on my learning, the most probable sentence should be.....

IMPRISONMENT

3) We then check if the AI has made a correct decision
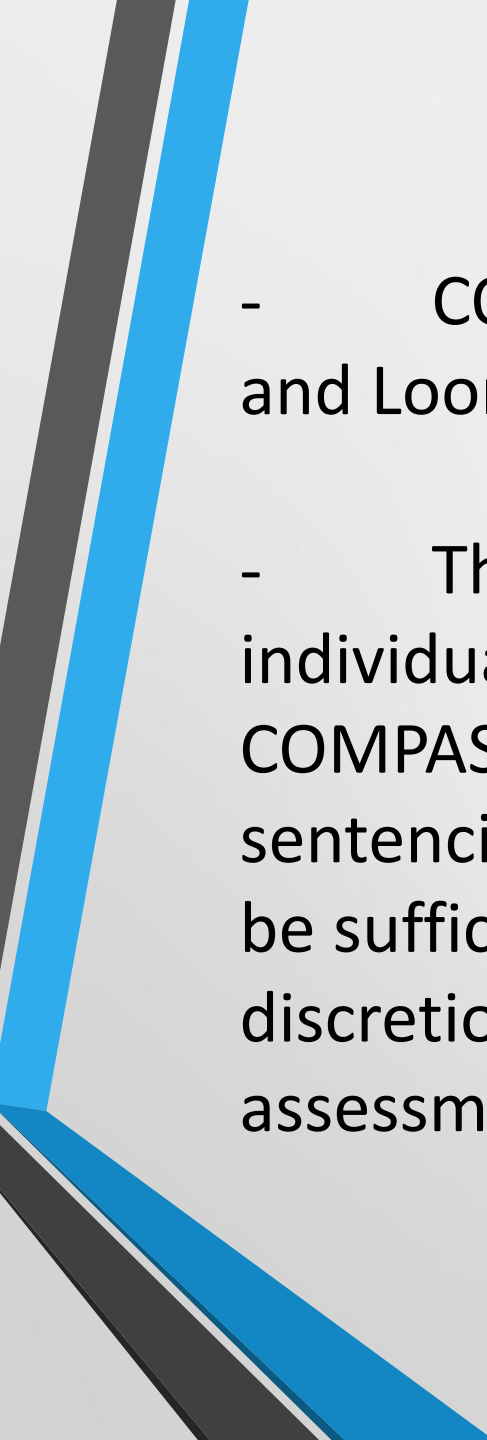
CHALLENGES

- **Challenges**
  - Data collection is time consuming
  - Data cleaning is error-prone
  - Data may be incomplete
  - Data may not be well distributed
  - BUT eventually with the continued use of AI and more data the output will become more accurate.

DUE PROCESS OF LAW

- The final decision is entirely in the discretion of the trial Judge.

- The recommended sentence of the AI machine is ONLY a recommendation.

- The recommended sentence of the AI machine is subject to submissions of the respective counsel and DPP.

- The rights of the accused have been enhanced.

- Sentencing Judge is to strictly to follow the data sentencing protocol

# **Loomis v. Wisconsin**, 881 N.W.2d 749 (Wis. 2016), cert. denied, 137 S.Ct. 2290 (2017),

- The case challenged the State of Wisconsin's use of closed-source risk assessment software in the sentencing of Eric Loomis to six years in prison.

- The contention was that using such software in sentencing violates the defendant's right to due process because it prevents the defendant from challenging the scientific validity and accuracy of such test. The case also alleged that the system in question (COMPAS) violates due process rights by taking gender and race into account.

-       COMPAS classified Loomis as high-risk of re-offending, and Loomis was sentenced to six years.

-       The Supreme Ct stressed the importance of individualized sentencing, but it explained that as the COMPAS report would not be the sole basis for a decision, sentencing that considers a COMPAS assessment would still be sufficiently individualized because courts have the discretion and information necessary to disagree with the assessment when appropriate.

STEPS – Drug Case (Section 12(2) DDA 1952
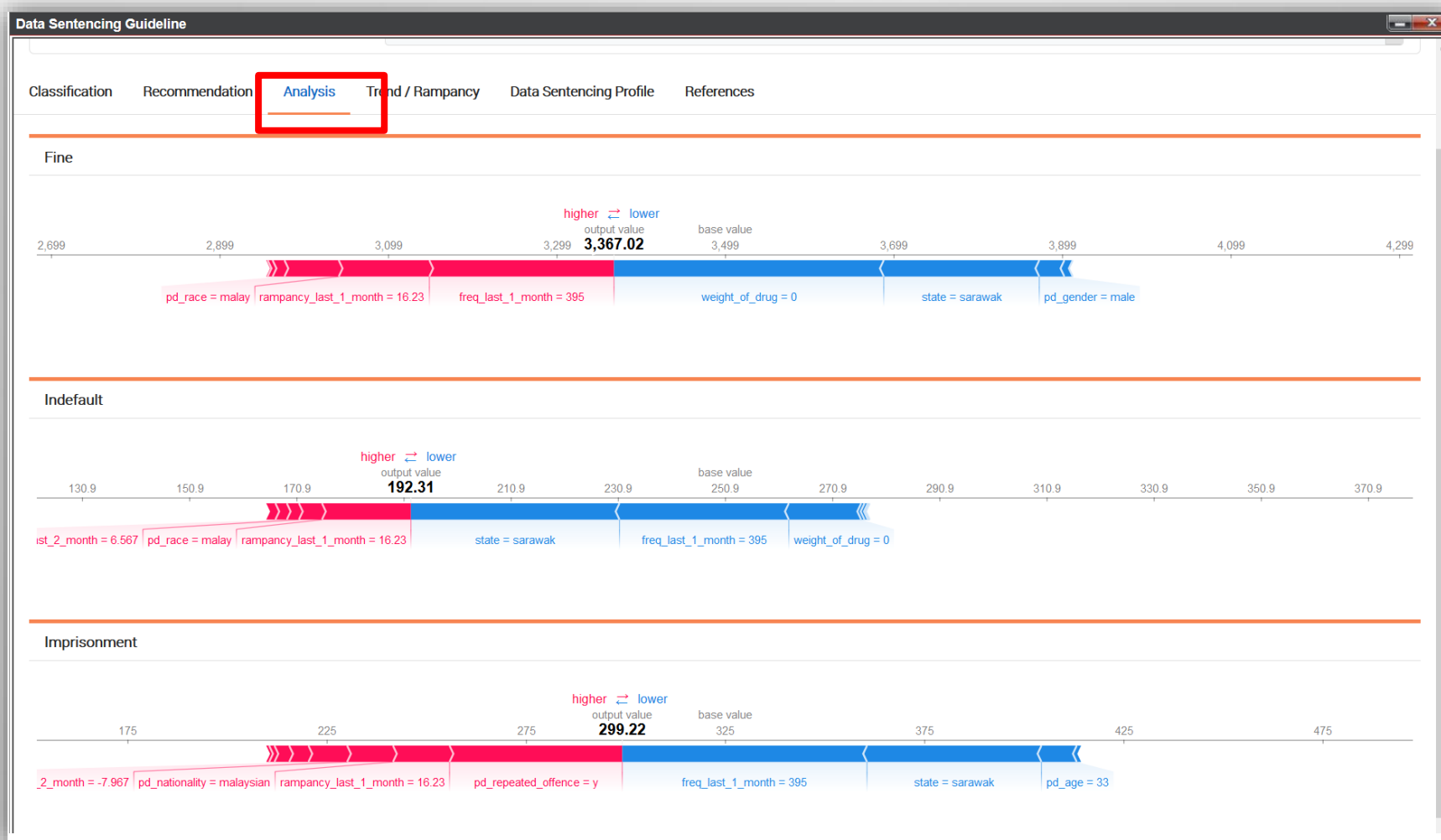
STEPS – Rape Case (Section 376 PC)
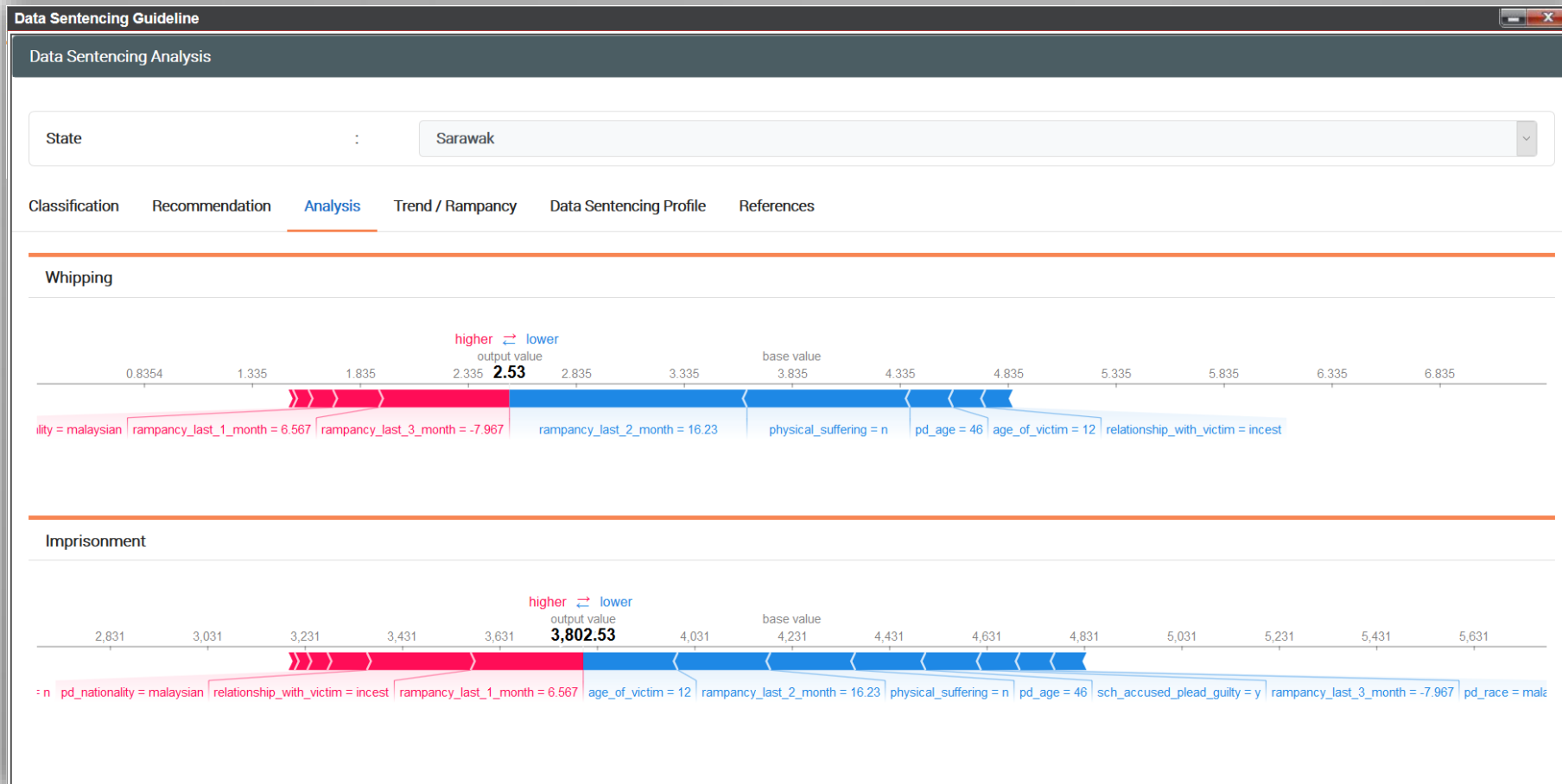
AI AND THE LEGAL PROFESSION

- Would AI replace lawyers?

- Implications of AI technology on the Law.

AREAS

- **Due diligence.**
- **Predictive technology.**
- Legal analytics.
- Document automation.
- Intellectual property.
- Electronic billing.

Edgar Alan RayoLast – AI in law and Legal Practice.

DUE DILIGENCE

- In a 2017 Forbes article, it was reported as follows:

- Deloitte employs natural language processing to review hundreds of thousands of legal documents to identify change control provisions as part of a client's sale of a business unit. Without this process, it employs dozens of employees occupied for half a year. With this process, the number of employees on the task was trimmed down to eight and the time the company spends on the task was down to less than a month.

DUE DILIGENCE

- EY is using natural language processing to review leases to ensure that they comply with the new lease accounting standards. Prior to the implementation of its system, EY had to manually review each lease – a process prone to error and inefficiency. The natural language processing system is said to be three times more consistent and twice as efficient as the manual process.

AI IN ACCOUNTANCY

- AUTOMATE A SIGNIFICANT PART OF A MUNDANE TASKS PERFORM BY ACCOUNTANTS

(1) Documents and data collection from the third party

(2) Documents classification and data extraction from documents

(3) Document and entry into accounting, auditing and tax

(4) Approval (such as invoice or expense approval)

SURUHANJAYA SYARIKAT MALAYSIA
COMPANIES COMMISSION OF MALAYSIA
(Agensi di bawah KPDNHEP)

KEY FINANCIAL INFORMATION

Company Name   :
Company Number   :

Auditor   :
Auditor Address   :

Exempt Private Company (Y/N)	:	N
Financial Year End	:	31-12-2017	31-12-2016
Unqualified Reports (Y/N)	:	Y	Y
Consolidated Accounts (Y/N)	:	N	N
Date of Tabling	:	07-06-2018	16-05-2017

BALANCE SHEET ITEMS

		2017	2016
Non-Current Assets	:	2,419,411.00	1,337,367.00
Current Assets	:	14,952,168.00	13,108,594.00
Non-Current Liabilities	:	0.00	27,612.00
Current Liabilities	:	4,109,100.00	2,687,980.00
Share Capital	:	10,000,000.00	10,000,000.00
Reserves	:	0.00	0.00
Retained Earning	:	3,262,479.00	1,730,369.00
Minority Interests	:	0.00	0.00

INCOME STATEMENT ITEMS

		2017	2016
Revenue	:	24,782,289.00	20,204,940.00
Profit/(Loss) before Tax	:	4,535,368.00	3,815,485.00
Profit/(Loss) after Tax	:	3,532,110.00	2,926,297.00
Net dividend	:	-2,000,000.00	-1,200,000.00
Minority Interests	:	0.00	0.00

END OF REPORT

This information is from the company's document registered as at   08-01-2019

Registrar of Companies

This is computer generated document. No signature is required.

SURUHANJAYA SYARIKAT MALAYSIA
e-Info
COMPANIES COMMISSION OF MALAYSIA

Report sections:

- Financial Insights

- Financial Profile

- Financial Risk Checklist (I-II)

- Key Financial Ratios – Summary

- Reference I – Financial Ratios Explanation

PREDICTIVE TECHNOLOGY

- What is this?

- In 1997 an IBM's supercomputer "Deep Blue" defeated world chess champion Garry Kasparow. The Supercomputer had stored the full history of Kasparov's previous public matches and style and using that data the programmers was able to get the supercomputer to make decisions in manners to outperform the Kasparow.

- There are more than 30 Applications in this world.

Online Dispute Resolution

- eBay/PayPal encourages parties to voluntarily settle their disputes by using assisted negotiation software; only if there is no settlement the claim escalates to adjudication. PayPal freezes the money involved in the transaction of the dispute which ensures that the final decision can be enforced. Over US60 million disputes are settled per year.

Online Dispute Resolution

- CyberSettle uses blind – bidding negotiation to settle insurance and commercial disputes where parties' confidential offers are disclosed only when both offers match certain standards (usually ranging from 30 to 5 percent) or a given amount of money. The settlement is the mid-point of the two offers. CyberSettle has been working online since 1998 settling over 200,000 disputes with an accumulated value of more than USD 1.6 billion.

LEX MACHINA

- Who is the Plaintiff, who is their counsel. Who have they represented, and who else have they sued.

- Helps to select lawyers and analyse their experience before a Judge.

- Analyse opposing counsel's argument as to the likelihood of winning or losing a case.

- Analyse the Judge's history and his Judgments to determine the strength and weakness of your case.

THE WAY FORWARD

THE FUTURE IS HERE

University engagement with AI

UNSW Law students will showcase their own digital legal applications when they compete at the end of their 'Designing Technology Solutions for Access to Justice' course.
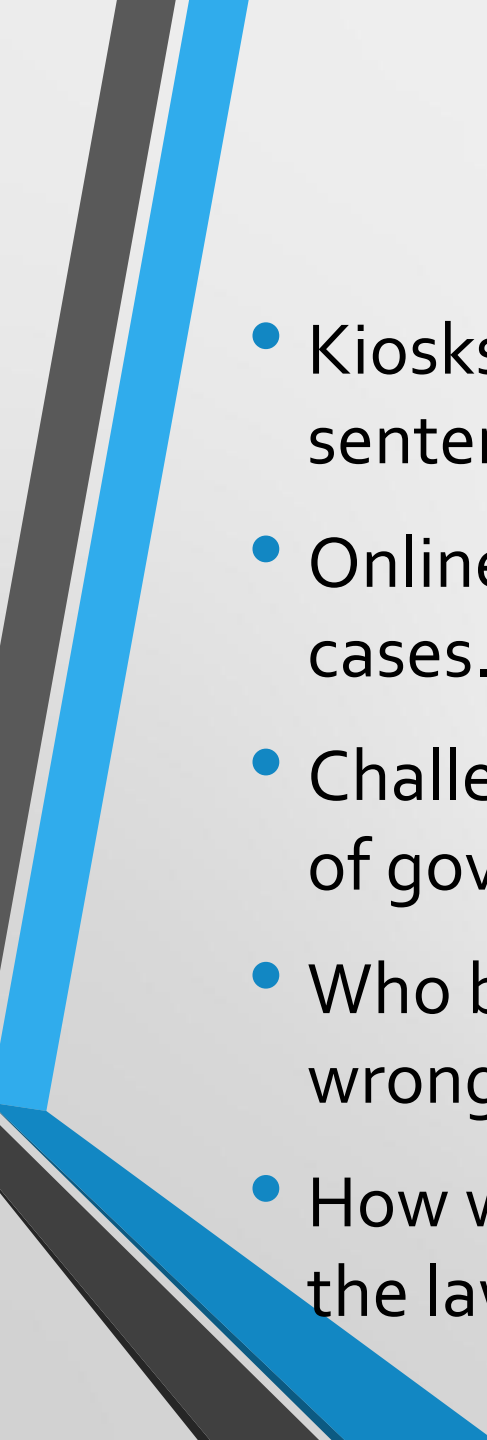
"We need future lawyers who can understand legal technology projects from the inside, in particular where they can solve problems in the delivery of legal services," says Professor Bennet Moses.

"Law can be a very traditional profession, but it is experiencing more and more technological change," Mr Kan says.

"I think the course itself provides a mindset about how to leverage legal technology effectively in practice, and I think that will make me a better lawyer."

Caryn Sandler, Partner and Chief Knowledge and Innovation Officer at Gilbert + Tobin is a sponsor of the course. Ms Sandler says the course enables students to "futureproof their careers by exposing them to non-traditional skill sets that are highly attractive to employers."

"Design thinking and technology literacy are now critical elements in the efficient delivery of legal services, and we are delighted to support this important course year-on-year," says Ms Sandler.

- Kiosks in courts to allow accused to use the data sentencing AI machine to make an informed decision.

- Online Dispute resolution ESPECIALLY personal injury cases.

- Challenges to decision made by AI machine on behalf of government authorities.

- Who bears the responsibility when a doctor uses AI in a wrong diagnosis?

- How will hyper-realistic fake picture and videos shape the law of evidence?

THE

EMERGENCE

OF

AI

Thank You For Listening !

Stay Safe and Healthy !

God Bless and Thank you to

Our Front Liners !