



Louisiana State Bar Association

AI and the Legal Profession

John Browning Ronald Chichester Al Harrison Mark Unger

Automation

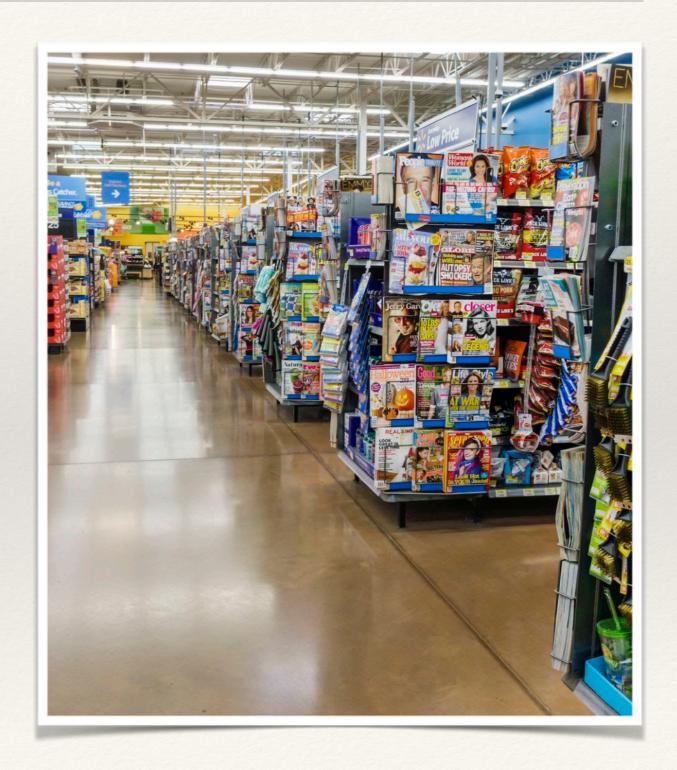
First Wave of Automation

- * Standardized processes
- * the Production Line
- * Steps in the overall process:
 - Measured
 - * Optimized
 - * Standardized
- Achieved great efficiencies
- * Example: Ford Motor Co.



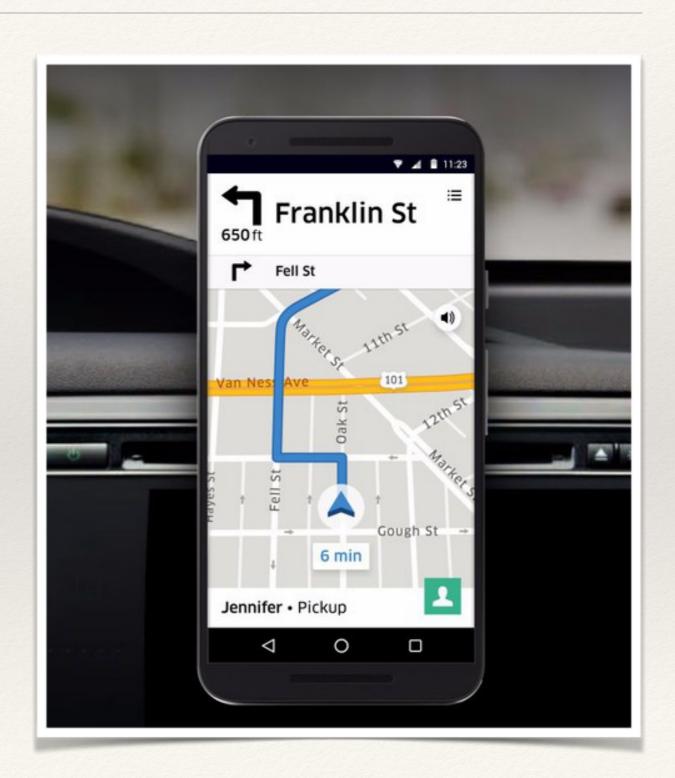
Second Wave of Automation

- * Automated processes
- * IT enabled automation of backoffice tasks
- * Emerged in the 1970's and peaked in the 1990's
- * "Business Process
 Reengineering" (BPR) initiative
- * Example: WalMart



Third Wave of Automation

- * Adaptive processes
- * Built upon the first two waves
- * Driven by real-time data, available through a network
- Not standardized or routine
- Processes are constantly changing
- * Example: Uber driver using Google Maps



Third Wave of Automation makes extensive use of Artificial Intelligence

What is Artificial Intelligence?

First thing...

AI is not monolithic

artificial intelligence

DICTIONARY

THESAURUS

artificial intelligence noun

Definition of artificial intelligence

- : a branch of computer science dealing with the simulation of intelligent behavior in computers
- : the capability of a machine to imitate intelligent human behavior

Examples of artificial intelligence in a Sentence

// a robot with artificial intelligence

Recent Examples on the Web

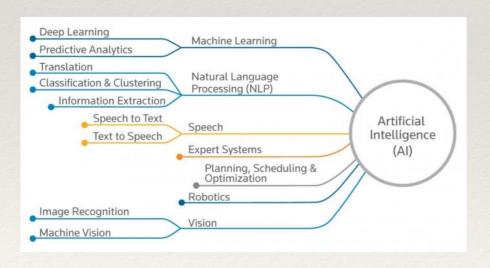
// Technologies such as artificial intelligence and virtual reality would allow some crew members to work from shore, operating key sections of ships from thousands of miles away.

— Kyle Mizokami, Popular Mechanics, "Future Warships Could Be Sailed Remotely with Artificial Intelligence, Virtual Reality," 27 Nov. 2018

Two Main Types of AI

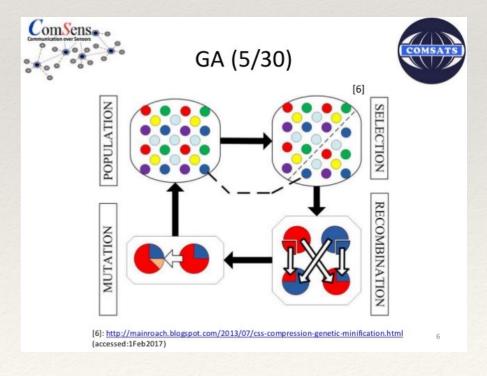
Predictive

Neural Networks



Creative

Genetic Algorithms



Two Main Types of AI

Predictive

Creative

Neural Networks

Genetic Algorithms

- How a Judge might rule.
- Find the best cause of action
- Is a document responsive?
- Find the best business model



ARTIFICIAL INTELLIGENCE IN COMMERCE MARKET MAP

REAL-TIME PRODUCT **TARGETING**







REAL-TIME PRICING &





VISUAL SEARCH











CONVERSATIONAL COMMERCE



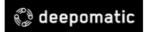












SIZING & STYLING





INTEGRATED ONLINE & IN-STORE ANALYTICS





INCENTIVES





ZenClerk

LOCATION-BASED MARKETING & ANALYTICS







NATURAL LANGUAGE SEARCH





IN-STORE VISUAL MONITORING







eversight

PREDICTIVE MERCHANDISING

BlueYonder

celect

MULTICHANNEL MARKETING

















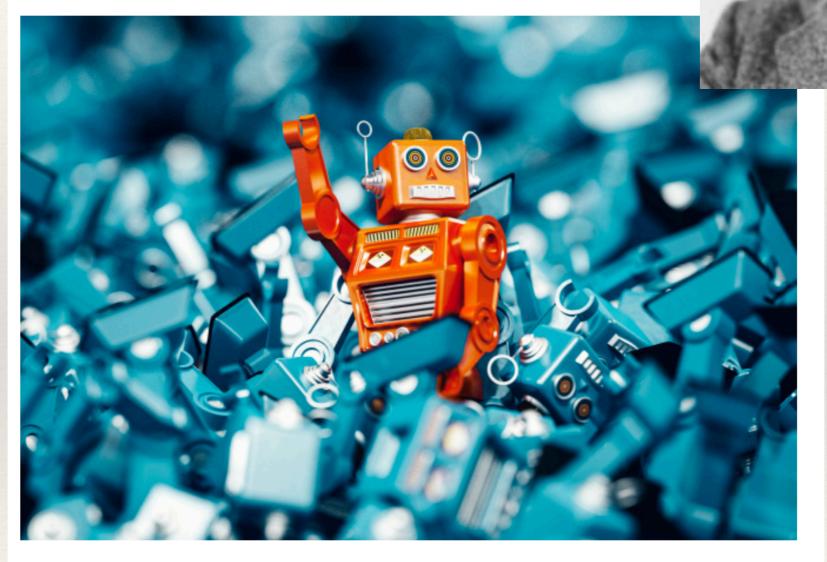








REALITY: THE EVOLUTION OF ARTIFICIAL INTELLIGENCE

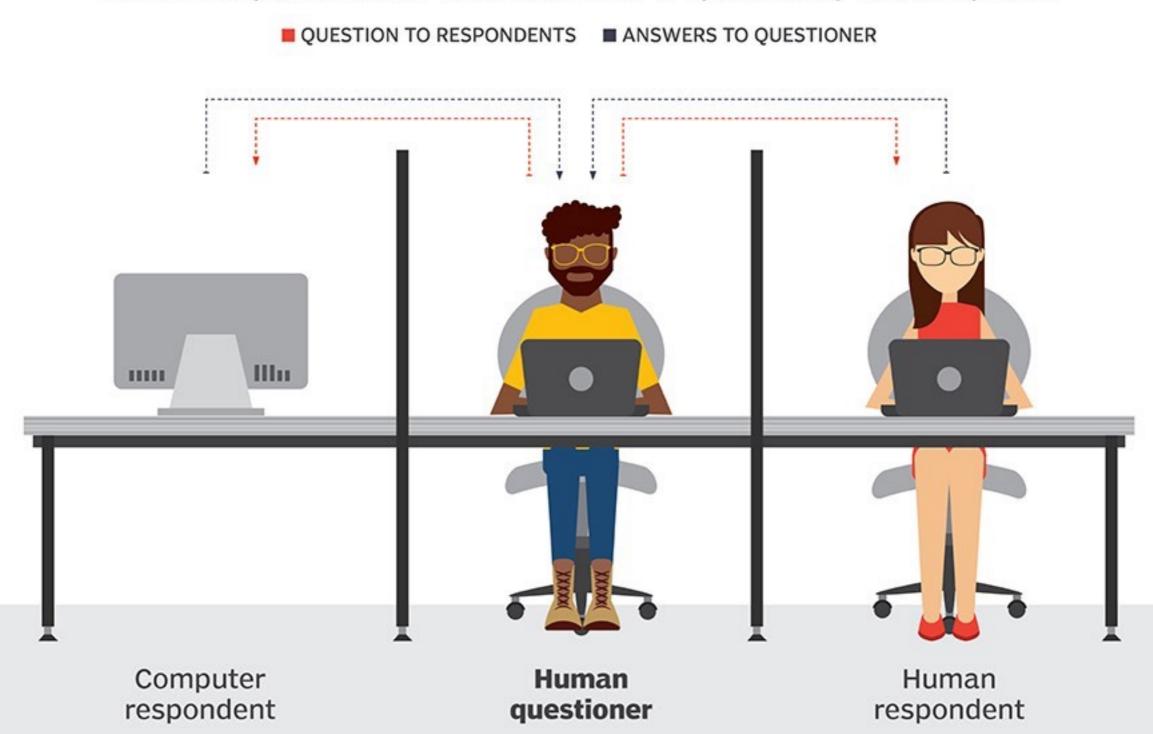


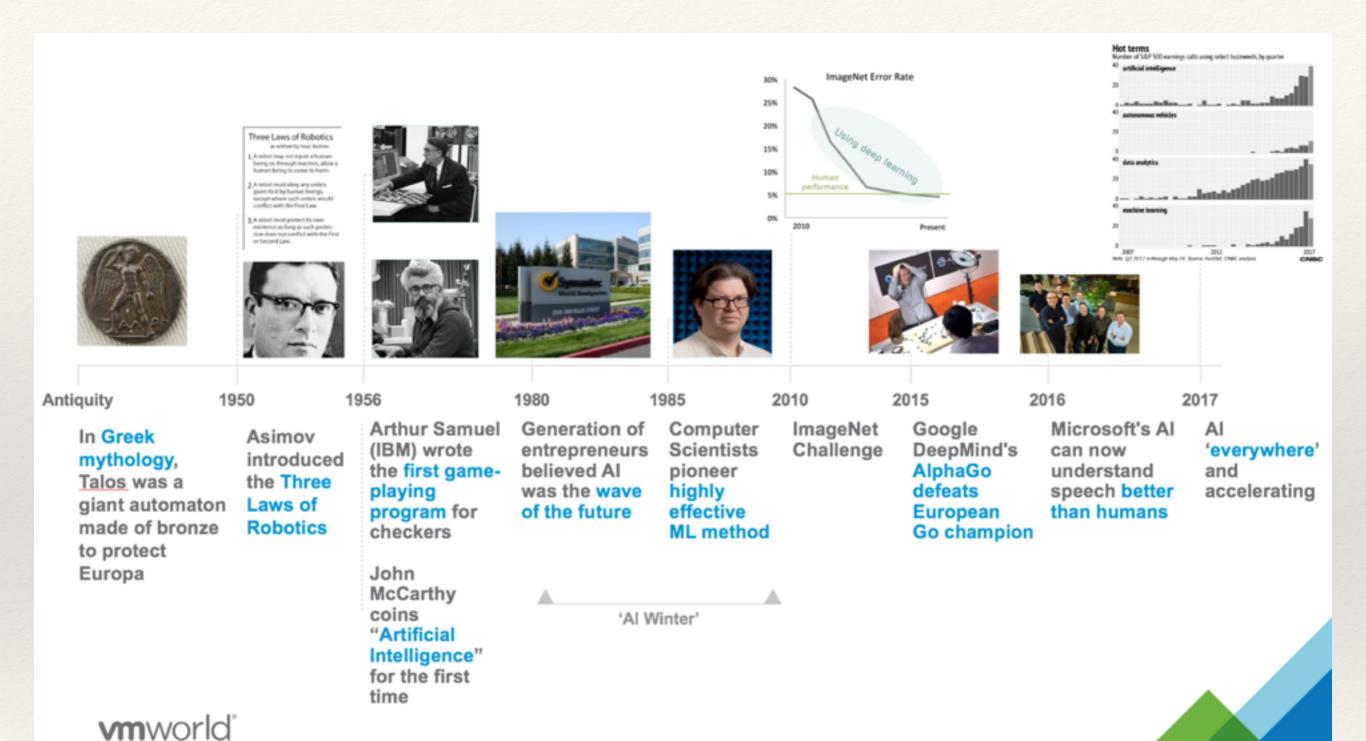
Getty Images

Turing test

During the Turing test, the human questioner asks a series of questions to both respondents.

After the specified time, the questioner tries to decide which terminal is operated by the human respondent and which terminal is operated by the computer.





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6

Trending

History

43

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This Stanford Students 'Robot Lawyer' Can Get You Out Of Parking Tickets (HBO)

VICE News ♥ 47K views • 2 years ago

19-year-old Stanford student Joshua Browder has overturned more than 190,000 parking tickets with the help of his artificially ...



Lawyer Chat Bots - Customer Chat on Website - DustinSanchezTV.com

Dustin Sanchez · 206 views · 1 year ago

https://www.dustinsancheztv.com/lawyer-chatbots Use the Customer Chat feature on ManyChat to convert website visitors into ...



Chatbot Lawyer Overturns 160,000 Parking Tickets

David Pakman Show ◎ 6.3K views • 2 years ago

-An artificial-intelligence lawyer called Chatbot has successfully contested 160,000 parking tickets across London and New ...



Meet the Robot Lawyer Fighting Fines, Fees, and Red Tape

ReasonTV • 25K views • 6 months ago

Joshua Browder is trying to cut red tape and upend the legal services industry with DoNotPay, a company that's running a "denial ...

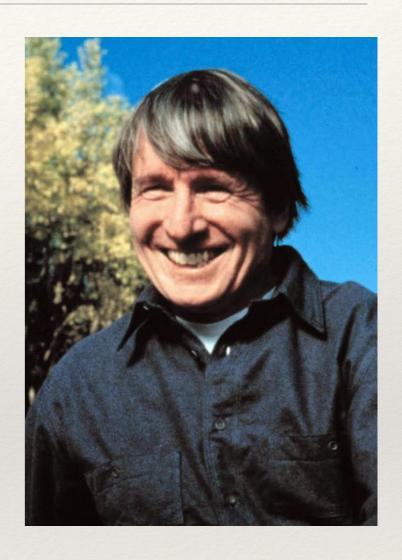
CC

(virtu)Al's personal experience

<Ron's personal experience>

How I got my start in AI



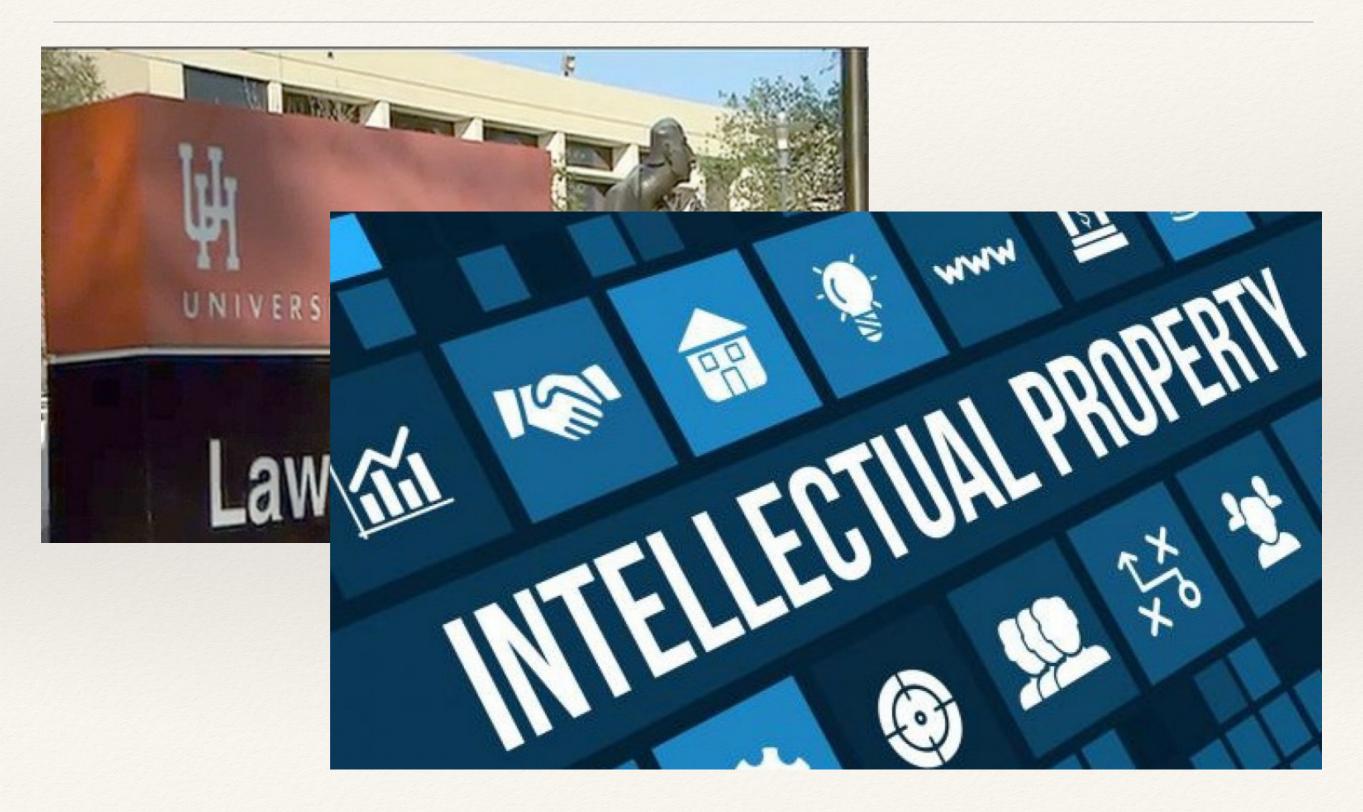


Genetic Algorithms





My Personal Experience





US007991886B1

US 7,991,886 B1

Aug. 2, 2011

(12) United States Patent Wu

	vv u		
(54)	METHOD AND APPARATUS FOR INDIVIDUAL-CENTRIC USE OF THE INTERNET		
(75)	Inventor:	Guangdian Gordon Wu, Houston, TX (US)	
(73)	Assignee:	Base Base Corporation , Houston, TX (US)	
(*)	Notice:	Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 886 days.	
(21)	Appl. No.: 09/822,097		
(22)	Filed:	Mar. 30, 2001	
(51)	Int. Cl. G06F 15/1	(2006.01)	
(52)	U.S. Cl	709/225 ; 709/203; 709/217; 709/223; 709/224	
(58)			
(56)		References Cited	
	U.	S. PATENT DOCUMENTS	

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7,792,962 B2*	9/2010	Mager et al 709/225		
2001/0011264 A1*	8/2001	Kawasaki 707/1		
2002/0116386 A1*	8/2002	Fabri et al 707/100		
2002/0116394 A1*	8/2002	Van Doorn 707/104.1		
* cited by examiner				

Primary Examiner — Ramy M Osman (74) Attorney, Agent, or Firm — Baker Botts, L.L.P.

(57) ABSTRACT

(10) Patent No.:

(45) Date of Patent:

An individual-centric Internet is provided with a personal base process on a computer system. The computer system is equipped with multiple nodes that are interconnected to facilitate the communication between the nodes. The personal base service includes a personal base instance that is typically in software on at least one of the nodes of the computer system, such as a network. The personal base instance is designed to communicate with a user by any digital or analog device, such as a telephone, personal computer, personal digital assistant, or the like. A personal base server is instantiated on at least one of the nodes on the computer system and is in operative communication with the personal base instance. The personal base server is used to communicate with other personal bases or other nodes on the computer system or network in order to insulate the user from

Mortgage Discrimination: What to Do If It Happens to You



HAL M. BUNDRICK, CFP

Feb. 10, 2016

Home Search, Mortgages



At NerdWallet, we adhere to strict standards of editorial integrity to help you make decisions with confidence. Many or all of the products featured here are from our partners. Here's how we make money.

LOOKING FOR THE BEST LENDER?

We've researched the top lenders to help you find the best one and get preapproved.

See our top picks

Home Buying Tools

- Compare Mortgage Rates
- Find a Top Real Estate Agent
- How Much House Can I Afford

```
# Course URL:
# https://deeplearningcourses.com/c/natural-language-processing-with-deep-learning-in-python
# https://udemy.com/natural-language-processing-with-deep-learning-in-python
# data is from: http://nlp.stanford.edu/sentiment/
from future import print function, division
from builtins import range
# Note: you may need to update your version of future
# sudo pip install -U future
import sys
import tensorflow as tf
import numpy as np
import matplotlib.pyplot as plt
from sklearn.utils import shuffle
from util import init weight, get ptb data, display tree
def tensor mul(d, x1, A, x2):
    A = tf.reshape(A, [d, d*d])
    # (1 \times d) \times (d \times dd)
    tmp = tf.matmul(x1, A)
    \# (1 x dd)
    tmp = tf.reshape(tmp, [d, d])
    \# (d \times d)
    tmp = tf.matmul(tmp, tf.transpose(x2))
    \# (d x 1)
    return tf.reshape(tmp, [1, d])
def get labels(tree):
    # must be returned in the same order as tree logits are returned
    # post-order traversal
    if tree is None:
        return []
    return get_labels(tree.left) + get_labels(tree.right) + [tree.label]
class RNTN:
    def __init__(self, V, D, K, activation):
        self.D = D
        self.f = activation
        # word embedding
        We = init_weight(V, D)
        # quadratic terms
        W11 = np.random.randn(D, D, D) / np.sqrt(3*D)
        W22 = np.random.randn(D, D, D) / np.sqrt(3*D)
        W12 = np.random.randn(D, D, D) / np.sqrt(3*D)
        # linear terms
        W1 = init weight(D, D)
        W2 = init_weight(D, D)
```

</personal experience>

AI is really cool!

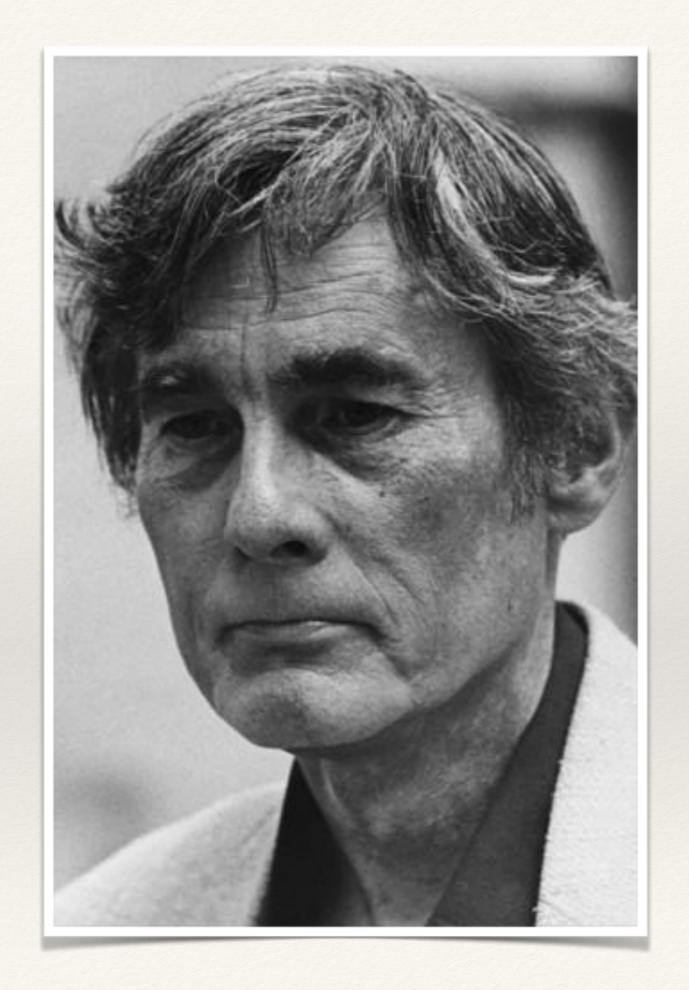
But the thing that people forget...

... is that they are only computers.

Theodore Roszak

Computers are only good at two things:

Storing and retrieving large amounts of information; and Performing repetitive tasks



If your task doesn't involve one or both of those, then don't use a computer

AI does both

So does the Legal Profession

What is the single word in the English language that illustrates why the legal profession is tolerated?

Ambiguity

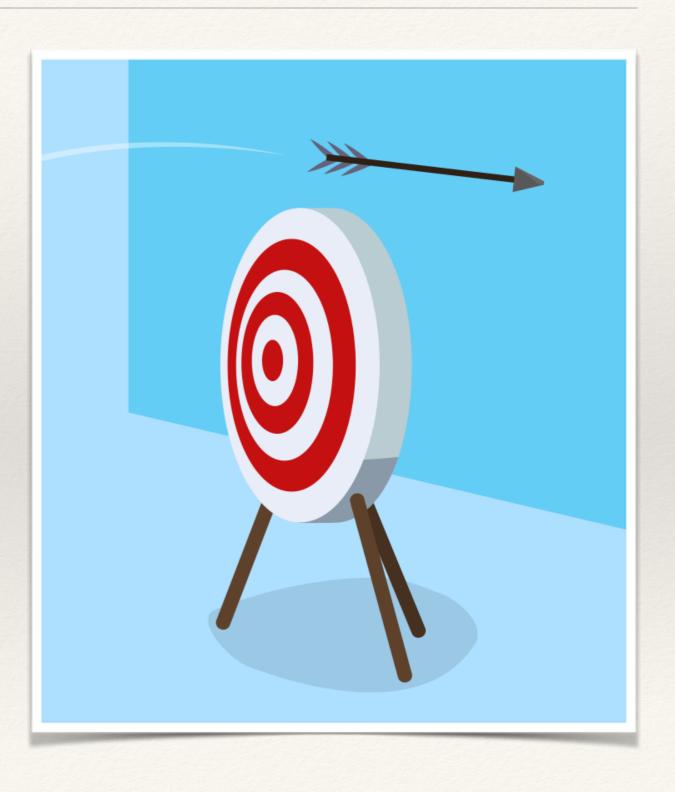
AI doesn't handle ambiguity well

<example>

"Thank you"

So are lawyers off the hook?





(Right now...)

AI is only having ancillary effects

<more examples>

Creative

All Prior Art

Algorithmically generated prior art

Prior Art Publications About Contact

1461187725-f00e0aa8-68b8-4055-92c0-b74346ad03c3

A wearable electric device includes a main body with a circuit module inside and at least a detachable battery strap with a battery module inside, and the main body and the detachable battery strap are detachably fastened together. The test device includes an addressable memory. Responsive to one of the plurality of processes attempting to access a late binding object by its identifier, a determination is made as to which late binding object is associated with the process. The composition may be applied to soil to control a population of a deleterious organism. Each of the strips is radially offset from one another. In the sealing step, long side edges of the battery case are crimped by a forming surface having a rounded cross section, and arc-shaped edges connecting both long side edges are crimped by a flat forming surface.

Search ... Q

https://allpriorart.com/



Home > Internet of Things > AI & ML

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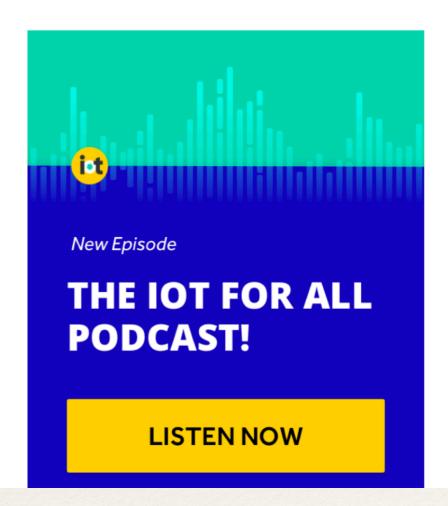
The Impact of Artificial Intelligence - Widespread Job Losses

No question, the impact of artificial intelligence and automation will be profound. But we need to prepare for a future in which job loss reaches 99%

By Calum McClelland - August 17, 2018

• 152588





https://www.iotforall.com/impact-of-artificial-intelligence-job-losses/

THE CONVERSATION

Academic rigor, journalistic flair

Arts + Culture Economy + Business Education Environment + Energy Ethics + Religion Health + Medicine Politics + Society Science + Technology



... but AI isn't the biggest threat

The Bigger Threats

- Erosion of client base b/c of AI
- Competition from corporations
 - AI isn't practicing law
 - One-to-many service by AI
- Domain Specific Languages
 - Eliminates ambiguity
 - Commoditizes language
 - * Enables automation
 - * Facilitates use of AI



Domain Specific Languages

- Computer language that is adapted to a specific domain, such as legal contracts
- * Differs from general-purpose computer language (e.g. Python)
- * Can be used to automate business processes (e.g. contract negotiation)
- * Resulting contract can be implemented on a blockchain
- * An example is <u>legalese.com</u>

KNOW ALL MEN BY THESE PRESENTS

tha

WONG MENG WENG

upenn.edu (SEAS '97), Harvard Berkman Klein ('16-'17), Stanford CodeX ('17-'18) previously co-founder of pobox.com, karmasphere.com, hackerspace.sg, and jfdi.asia and co-author of SPF (IETF RFC4408), a globally deployed opensource email standard

and

ALEXIS CHUN

a recovering lawyer who read at Queen Mary in London, practiced at TSMP (M&A) and Rajah & Tann (commercial litigation), and spent years consulting on software contracts before coming to the conclusion that doing things by hand was never going to get better

TOGETHER WITH

COLIN CHARLES

who advises us on opensource business models, informed by his work at MySQL & MariaDB

JOB CHONG

a self-taught Javascript developer fresh out of NUS law school our first legal engineer

VIRGIL GRIFFITH

a Caltech Ph.D. and boy does it show Internet Man of Mystery and our Ethereum specialist

DUSTIN WEHR

a Ph.D. in logical argumentation specialising in language design and dev

AND

ARTIFICIAL LAWYER

AI AND LEGAL AUTOMATION NEWS + VIEWS

LEGAL INNOVATORS CONFERENCE

AL JOBS

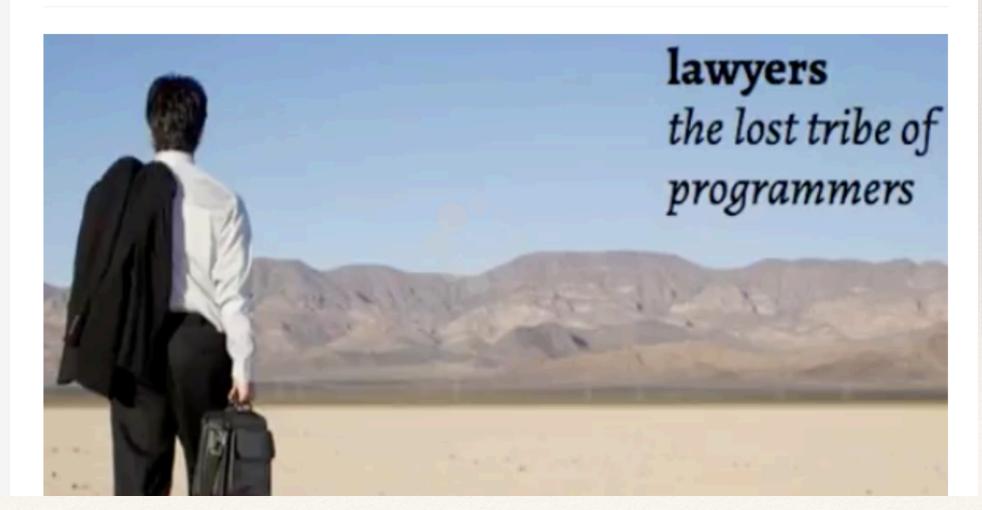
AL 100 DIRECTORY ~

HOME

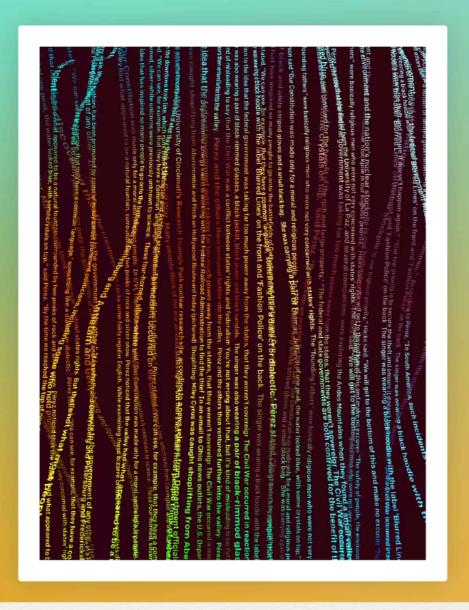
ABOUT ~

AL Interview: Software is Eating Law – Legalese.com

② 29th July 2016 🆀 artificiallawyer 🗁 Blockchain, Future, Interview, Smart contracts 🔎 0







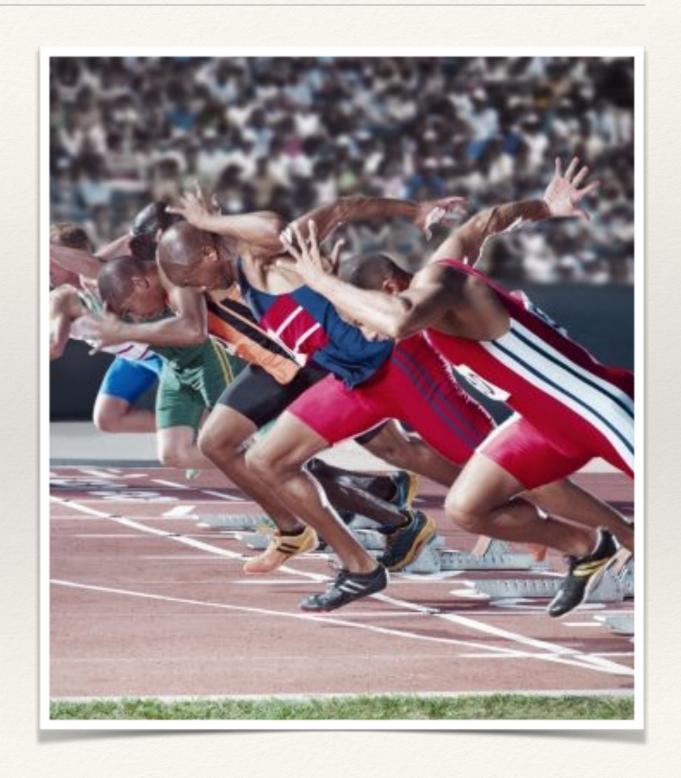
Better Language Models and Their Implications

We've trained a large-scale unsupervised language model which performance on many language modeling benchmarks, and performs rudimentary reading comprehension, machine task-specific training.

DSL + AI = (Lawyer) Killer App

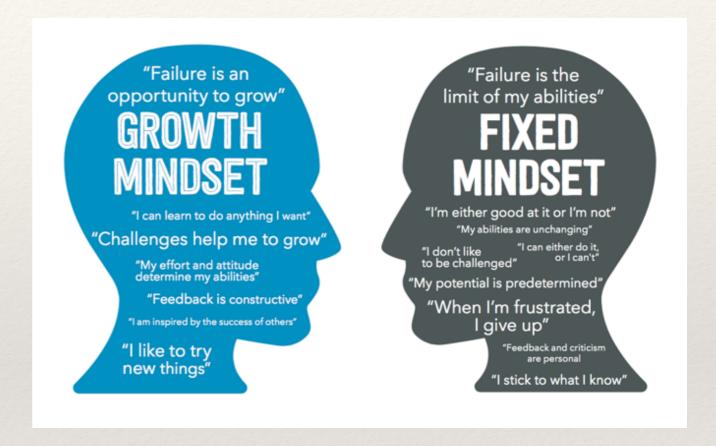
You're in a race against AI & DSL

- * You will be forced to use AI in order to practice law at all
- * You will lose...
- * ... but not right away
- * You must adapt while you can
- Learn where humans excel over AI (and where AI excels)
- * The "human touch" will be a luxury *exploit it*



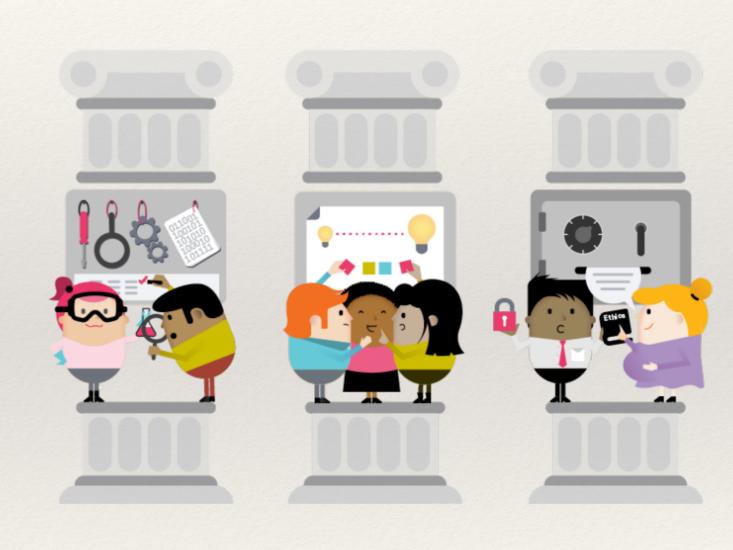
* Mindset

- * Use AI to augment humans
- Hire people who can work well with machines
- Hire people who are comfortable with constant change
- Be comfortable with machines and change yourself



* Experimentation

- Actively review current processes
 - * How can humans change
 - * How can AI change
- Human/AI collaboration is key to the best processes



* Leadership

- * Responsible use of AI
 - * Ethical
 - * Moral
 - * Legal
 - * Accountability
 - Bias



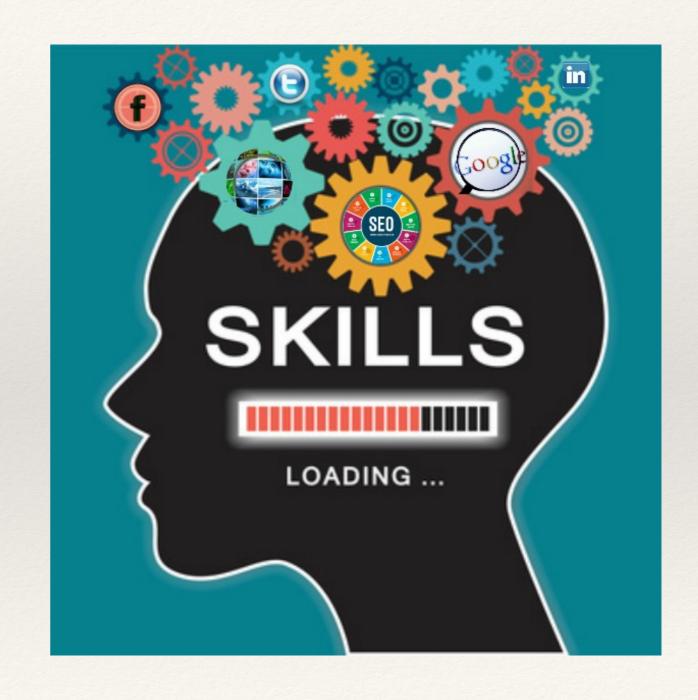
* Data

- * Build a data "supply chain"
- * Not only input data, but also "exhaust data"
- * Know that there is a <u>cost</u> and responsibility for data
- Attorneys tend to hoard data
- * Must adapt incentives for sharing rather than hoarding



* Skills

- * Eight "fusion skills" necessary for reimagining processes with AI
 - Rehumanizing time
 - Responsible normalizing
 - * Judgement integration
 - Intelligent interrogation
 - * Bot-based empowerment
 - Holistic melding
 - * Reciprocal apprenticing
 - Relentless reimagining



Low Hanging (AI) Fruit

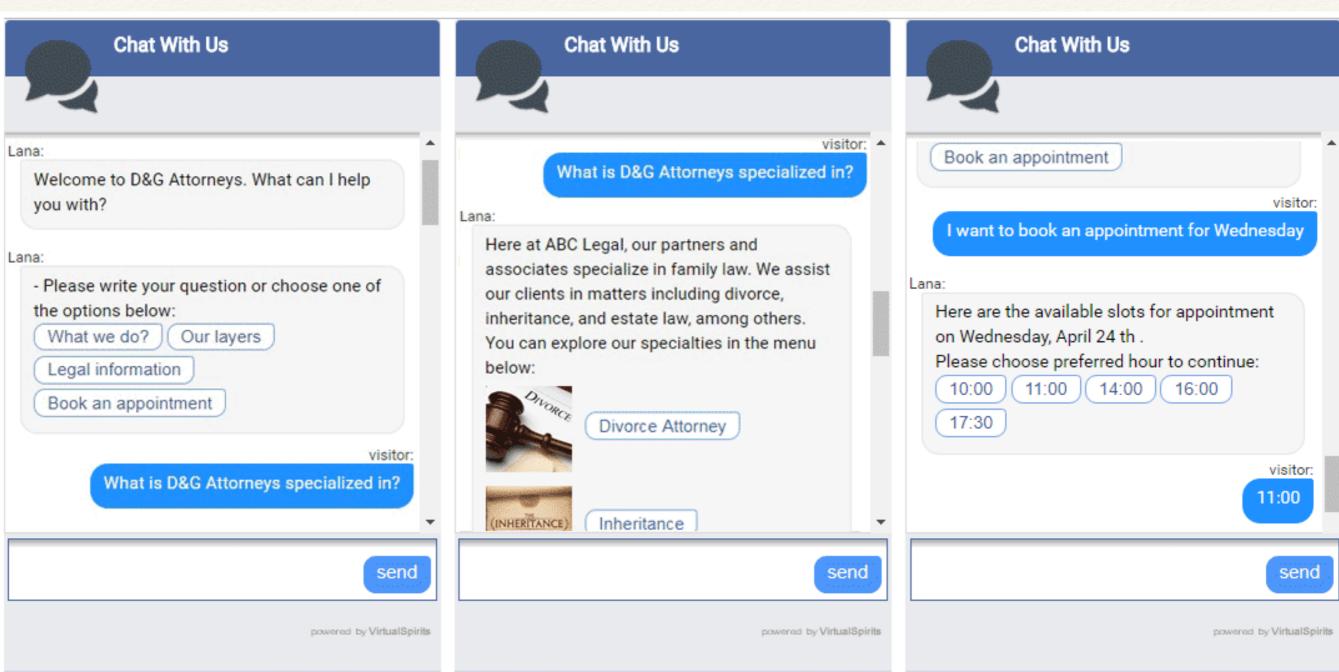
- * Back office operations
 - * e.g., scanning for viruses
 - * e.g., estimating profit of case
- Client intake
- Marketing
- Amplify human abilities
- Hire what you need

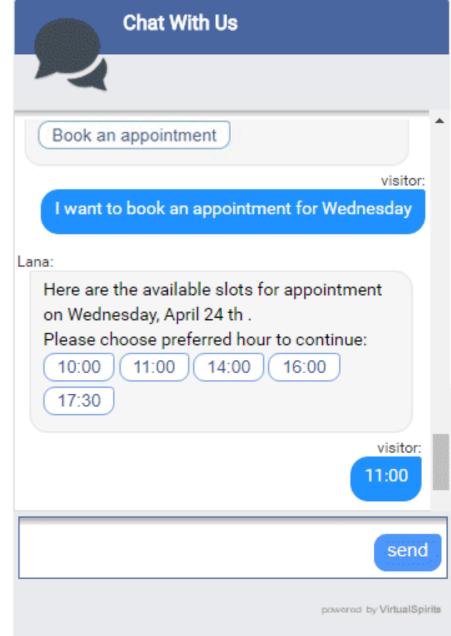


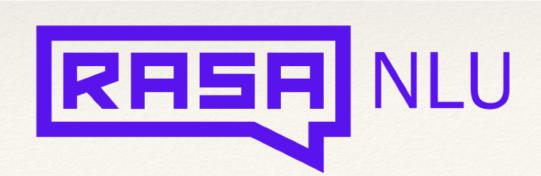
AI is great when you can't afford to hire an employee

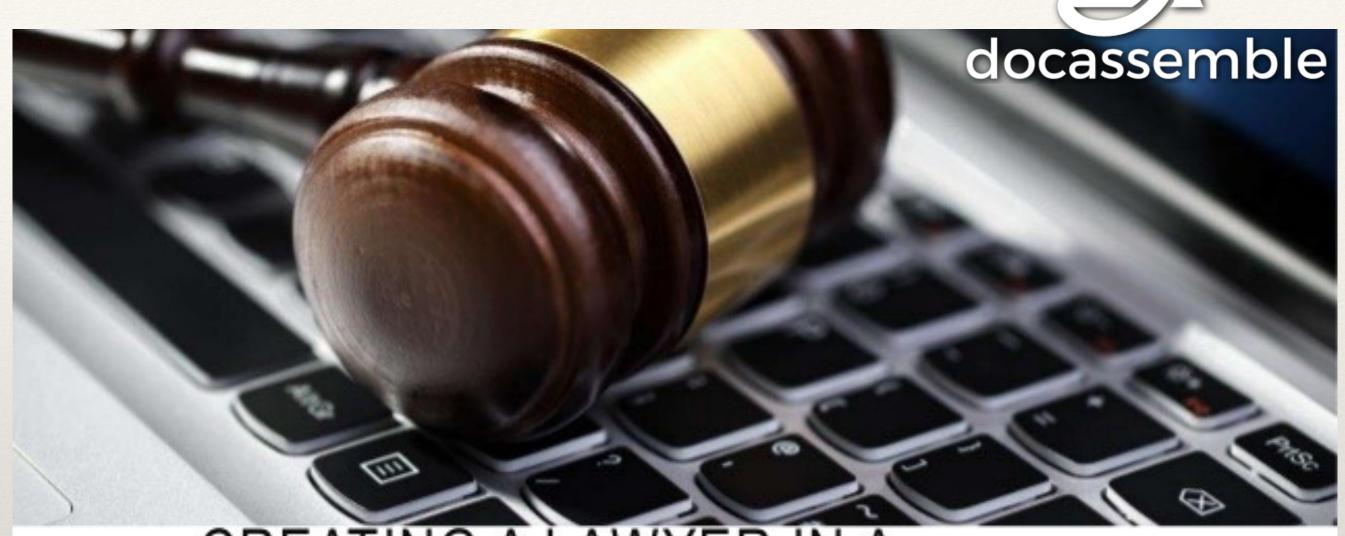
<some examples>

AI Chatbots for Client Intake









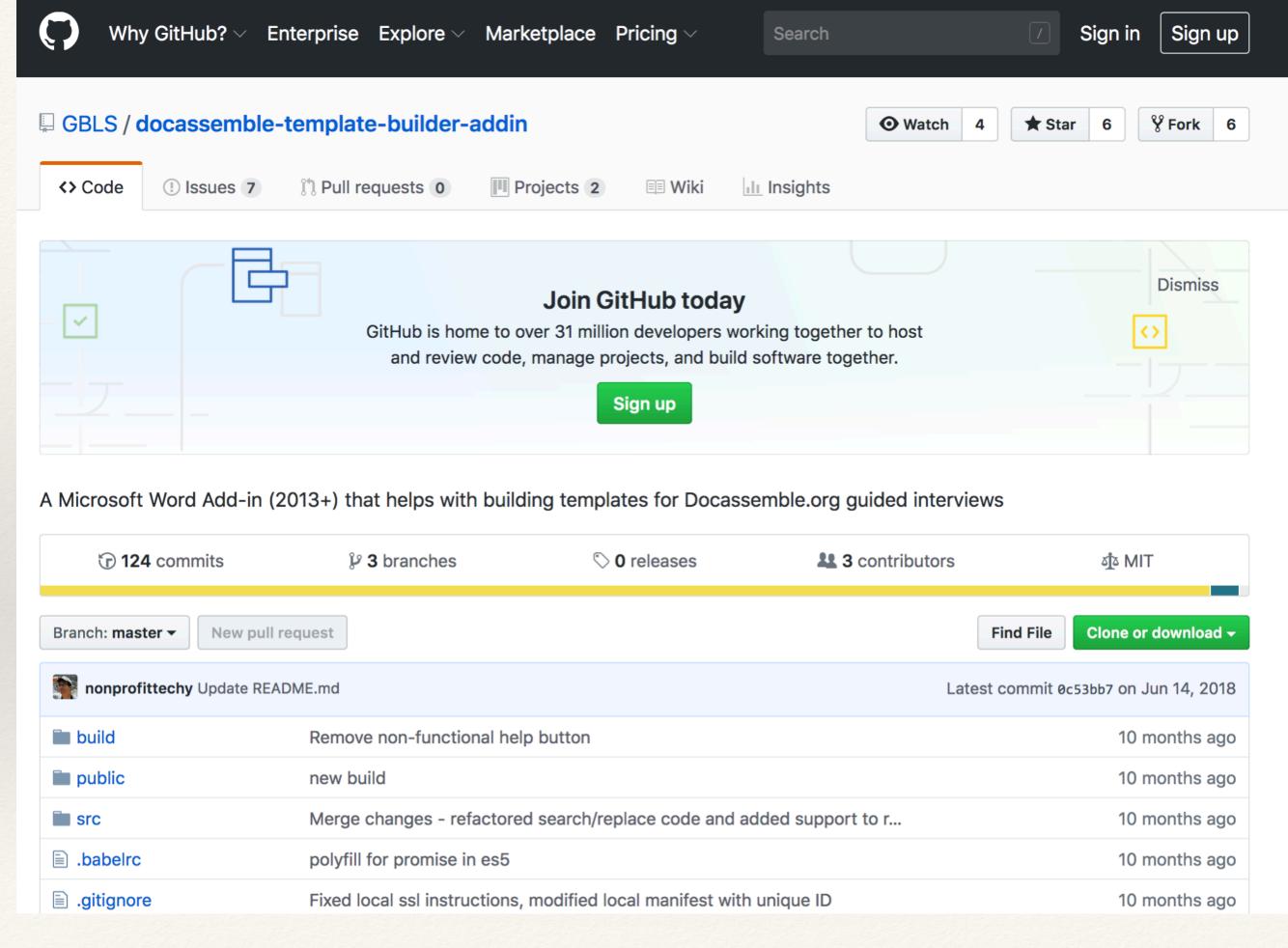
CREATING A LAWYER IN A BOX: BUILDING USERFRIENDLY INTERVIEWS WITH DOCASSEMBLE

Quinten Steenhuis, Greater Boston Legal Services

@QSteenhuis /

nonprofittechy.com

https://www.slideshare.net/QuintenSteenhuis/creating-a-lawyer-in-a-box-building-user-friendly-guided-interviews-with-docassemble





Why ROSS? V What is Al?

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Meet ROSS' new Coworker, EVA

January 29, 2018



https://blog.rossintelligence.com/post/ross-new-coworker-eva





https://secure.watchguard.com/WatchGuard_Cylance_AI_Webinar_Registration.html

EVENTS

ARTIFICIAL INTELLIGENCE

AI Is Within Reach for Small Business Marketing

It's time to level the marketing playing field.

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How Algorithms Can Predict Our Intentions Faster Than We Can

ARTIFICIAL INTELLIGENCE

Al Opportunities Abound, If You Know the Unexpected Places to Look

CHATBOTS

How to Create a Facebook Messenger Chatbot For Free Without Coding

Services

Get a grip on your contracts.



IDENTIFY LEGAL MATERIAL

Automatically identify legal material among your sea of files and communications.



ORGANIZE AND TAG DOCUMENTS

Automatically group and tag documents into related clusters by content or metadata.



DE-DUPLICATE DOCUMENTS

Automatically match duplicate or nearduplicate documents like executed copies, revisions, and amendments.

https://contraxsuite.com/



LexNLP Features

Information Extraction

Legal Terms

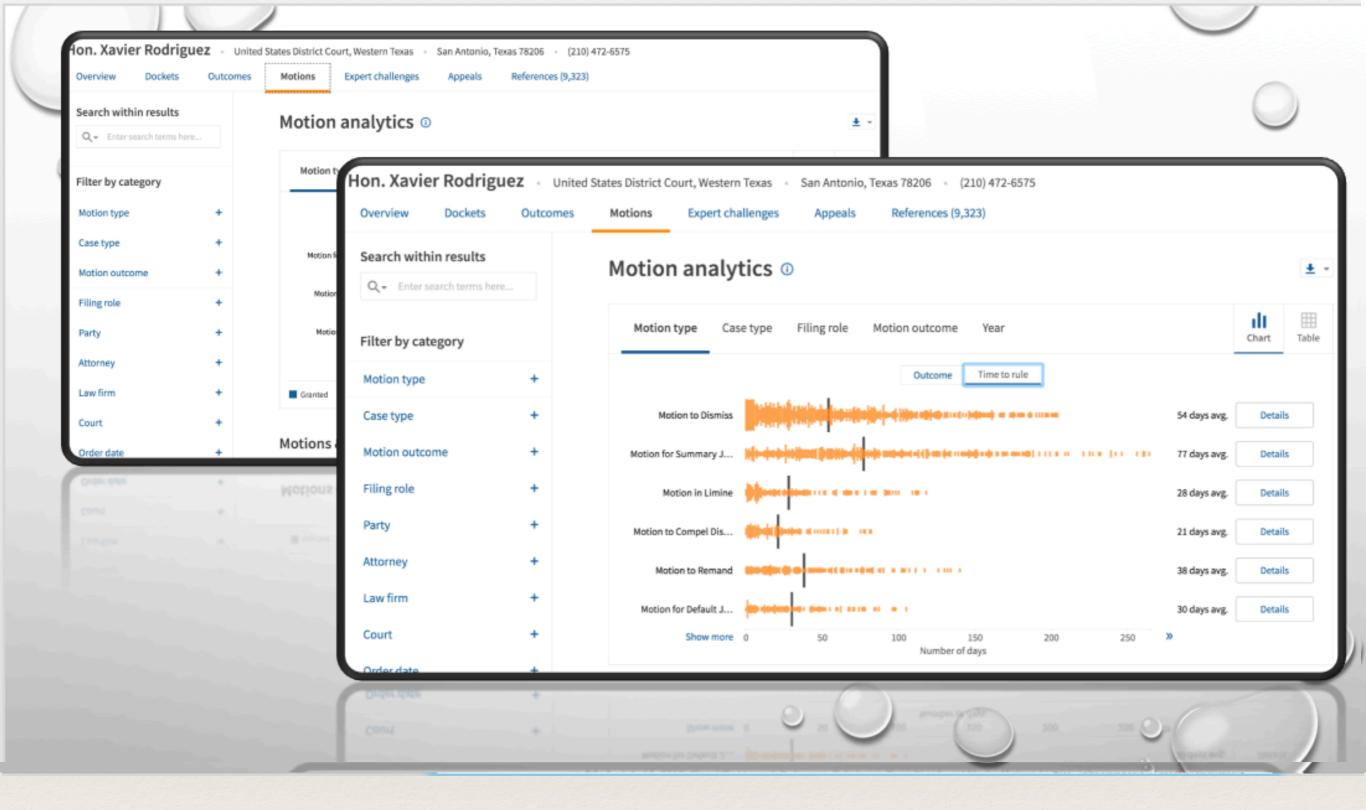
Extract Legal Terms

Tools for real-world data

Do stuff with text.

- Find dates like effective dates, termination dates, or delivery dates
- Find parties like persons and organizations
- Find durations like terms, notice periods, or assignment delays
- Find references to citations or regulations like "26 U.S.C. 501," "26 CFR 31.3121," or "655 F.3d 1013"
- Find references to courts or regulators
- Find controlling law and jurisdictions
- Find copyrights and trademarks
- Find definitions like "Default shall mean..."

```
>>> import lexnlp.extract.en.durations
>>> text = "This Agreement shall terminate in nine (9) months."
>>> print(list(lexnlp.extract.en.durations.get_durations(text)))
[('month', 9.0, 270.0)]
```



https://legal.thomsonreuters.com/en/products/westlaw/edge



Legal Analytics Platform

Leveraging the latest advances in computer science, together with our in-house legal expertise, Lex Machina has created a unique Legal Analytics Platform that enables you to craft successful strategies, win cases, and close business. Our Legal Analytics® Platform is delivered via on-demand subscription.

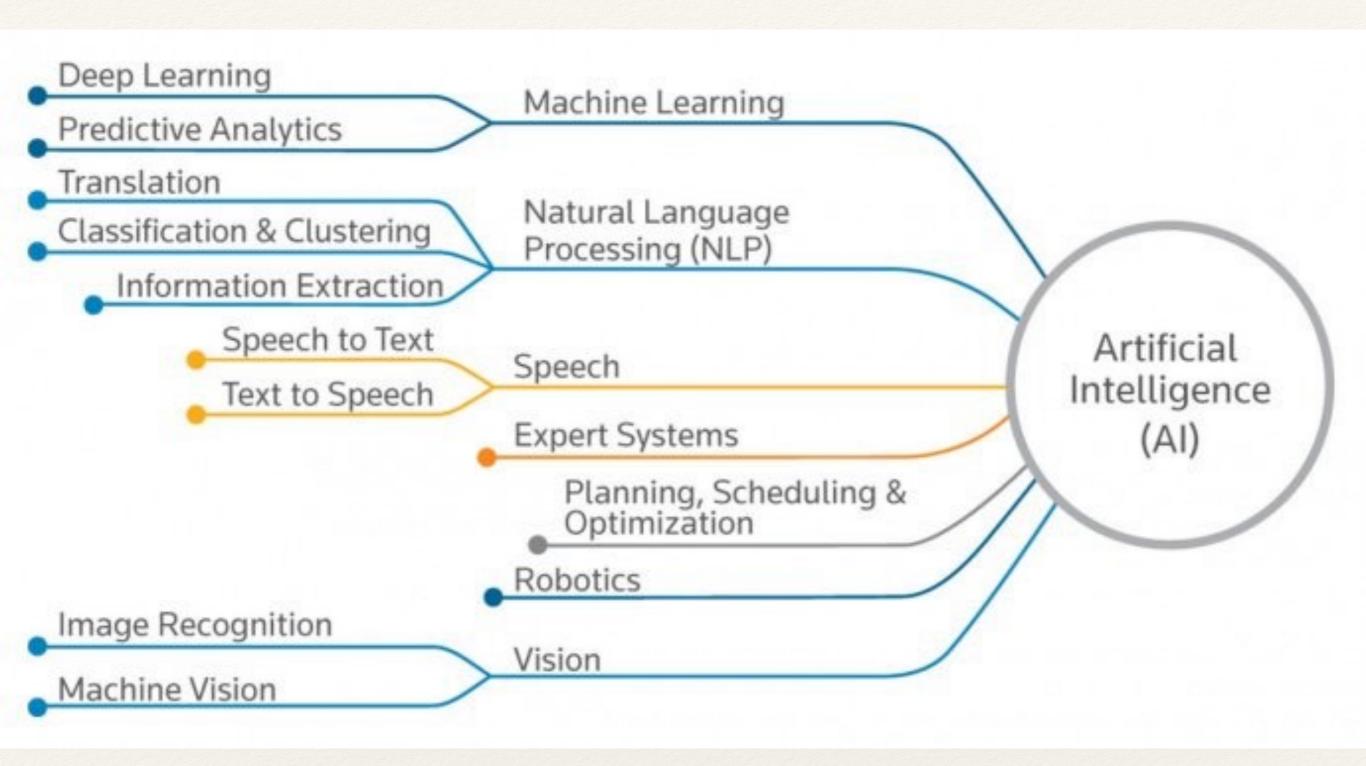
Analyze Judges and Courts

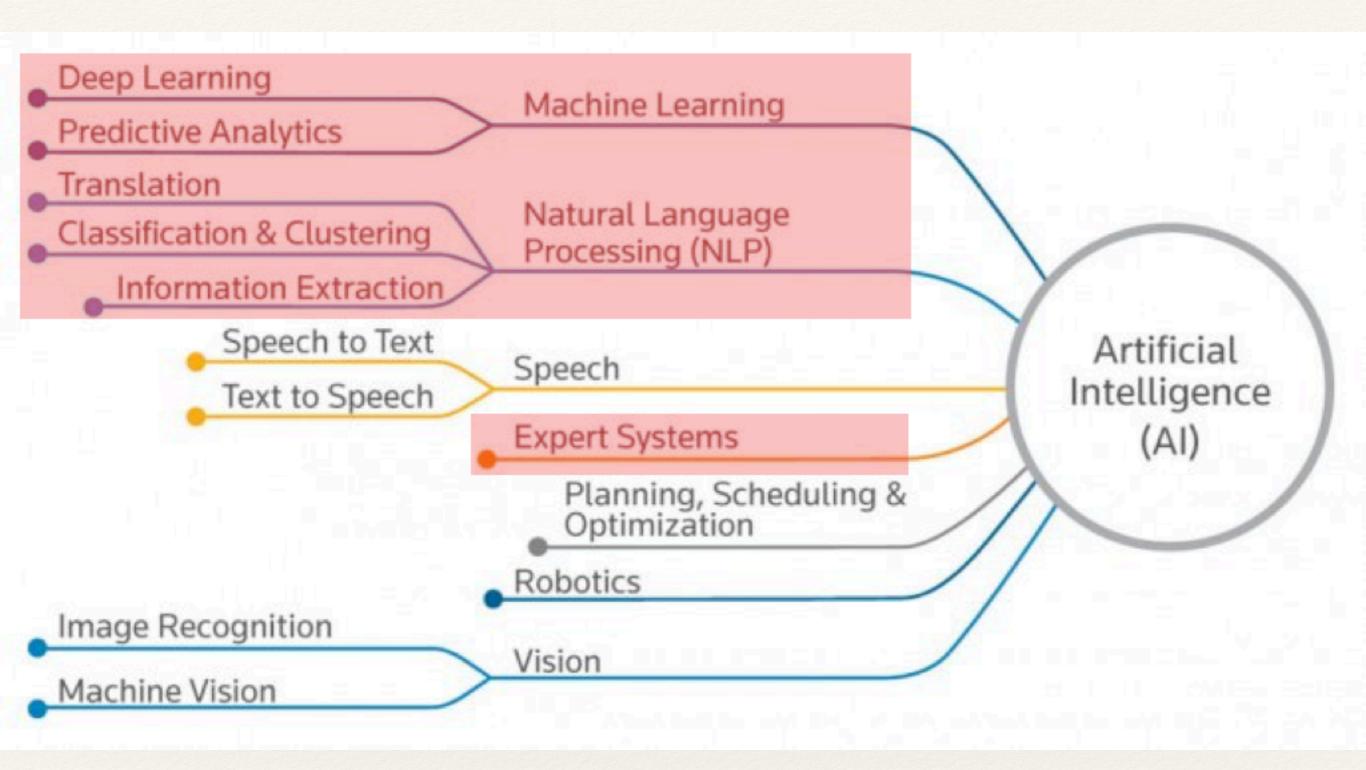
Would you like to know how Judge Sleet will likely respond to a motion to transfer? Use our *Motion Metrics Report* to view grant/deny rates. See how a specific judge compares to the national average. Click the hyperlinks in the chart to further explore the underlying motion-order chains. With Lex Machina, you can easily view:

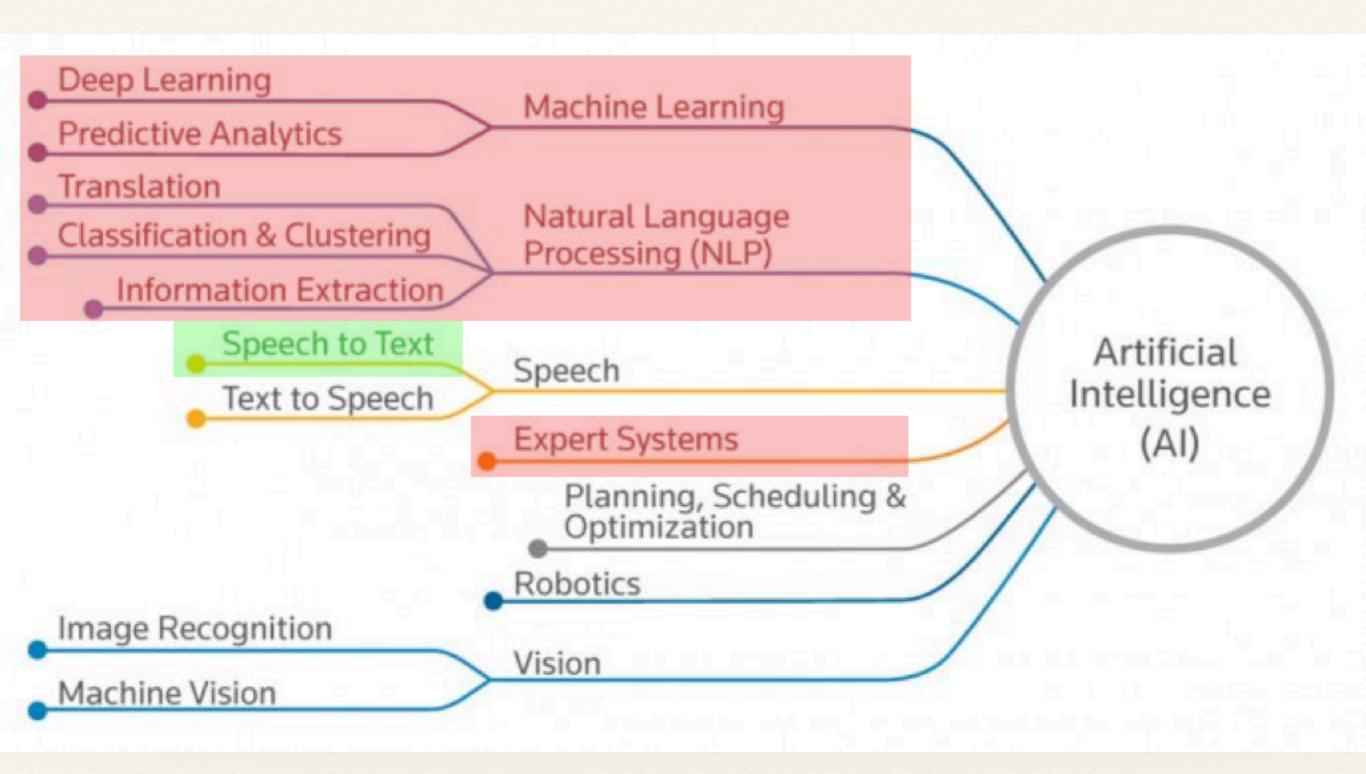
- How likely is a judge to grant or deny a specific motion?
- How long do cases take to get to a grant of a permanent injunction, to trial, or to termination before a judge?
- How likely is a judge to find infringement of a patent, fair use of a trademark, or a Securities Act violation?

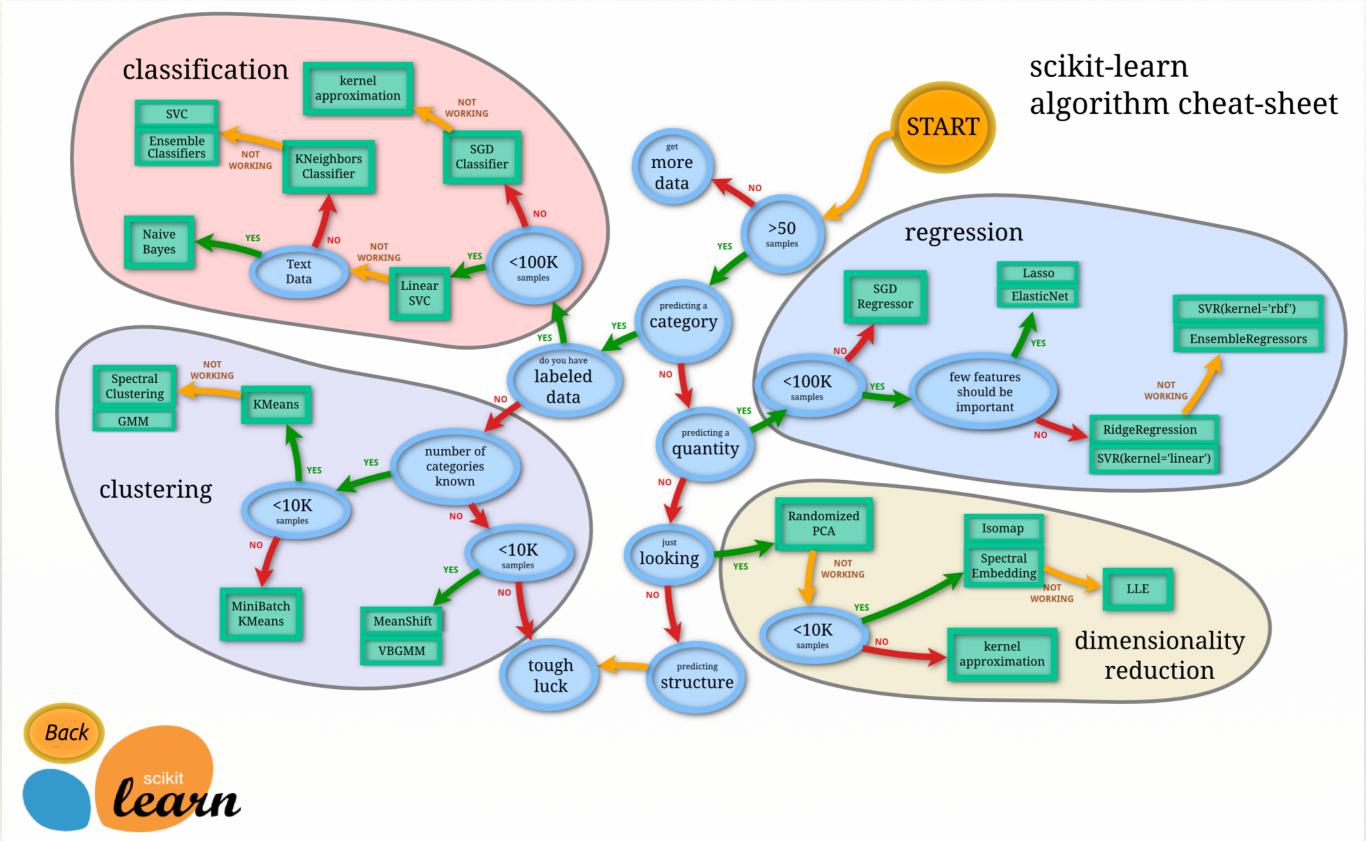
Cases and PTAB Trials

Things to Know









https://scikit-learn.org/stable/tutorial/machine_learning_map/

Remember that you have to...

train
Train
TRAIN!

Someone has to do it.

Attorneys make great trainers

<however, remember>



Technology is a two-edged sword...

... if you don't own or control it.

Who Owns Your Practice?

- * You can develop your own AI
 - * You will own it (exclusively)
 - * You can tailor it as needed
 - Competitive advantage
- * If you don't own the AI, know:
 - * Permissions needed?
 - * Who owns the training that you *will* do to the AI?
 - * Will others use your work?



Mirandize Your AI Contract

* Do I have a right to my work? Will anything that I say or do be learned by the AI? Will what the AI learns from me be used against me in a court of law? Will I be remunerated for training your AI? If I cannot afford the AI in the future, will it be used by my clients?

The practice of law is (becoming) very technology-driven

Are you ready?

Goals

- Learn the lingo
- * Understand the functionality (and when it makes sense)
- * Understand the security and ownership implications
- * Incorporate AI into your practice
- * Maintain competence
- * Educate your clients

But I don't code!

You won't have to.

Predictive Coding 4.0 - Nine Key Points of Legal Document Review

Contrary to what some vendors will tell you, predictive coding 3.0, and now 4.0, methods are not rocket science. You do not have to be a TAR-whisperer or do nothing but search, like my A-team for TREC. With good software it is not really that hard at all. These methods do, however, require an attorney knowledgable in e-discovery and comfortable with software.



Most of this stuff is free

















And it is getting better and easier to use – RAPIDLY!

Feeling better?

Question?

Kurt Vonnegut

If you compete with a slave...

...you are a slave.

Kurt Vonnegut, Player Piano (1952)

