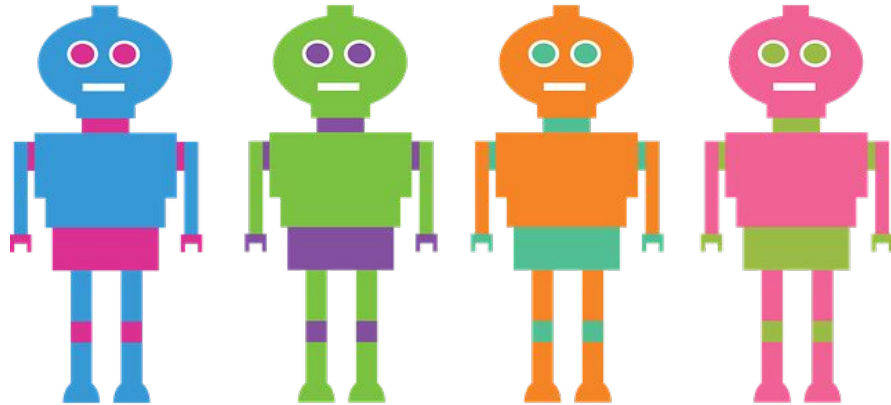


From Concept to Concrete: Teaching Law Students about AI





Jesse Bowman

Associate Law Librarian for Technology
Initiatives and Instruction
Northwestern Pritzker School of Law



Stephan Martone

Support and Educational Technologist
Northwestern Pritzker School of Law

Our Collaboration

Jesse (Library) and Stephan (IT/Learning Design) utilized their respective strengths to provide students with opportunities to (1) learn about and experiment with legal AI tools and (2) work in teams to build their own AI-enabled tool.

The Course: Legal Technology

Two Credits

2Ls, 3Ls, and LLMS


Thursdays, 8:25 a.m. - 10:15 a.m.



The Course: Legal Technology

Under the American Bar Association's Model Rules of Professional Conduct, attorneys are required to "keep abreast of changes in the law and its practice, **including the benefits and risks associated with relevant technology.**" In this course, technology for law practice will be examined, with topics including, but not limited to, cloud computing, practice management tools, artificial intelligence, information security, eDiscovery, courtroom technology, and access to justice via technology. Throughout the semester, emphasis will be placed on practical strategies for incorporating these technologies into various law practice settings, as well as any ethical implications associated with their use.

Intended Learning Outcomes for Course

1. Identify current technology trends affecting legal practice, including ethical implications.
 2. Gain hands-on experience using several technology tools.
 3. Consider ways to incorporate relevant technology into future legal practice.
- 

Will A.I. Put Lawyers Out Of Business?



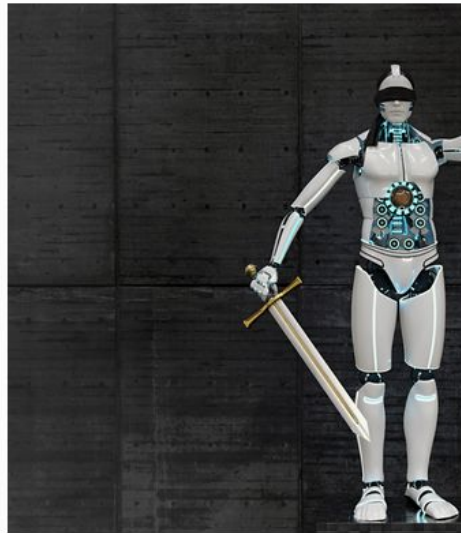
Neil Sahota Contributor
COGNITIVE WORLD Contributor Group
AI & Big Data

How artificial intelligence is transforming the legal profession

BY JULIE SOBOWALE

APRIL 1, 2016, 12:10 AM CDT

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The future of the legal profession began 20 years ago.

The technology boom was just beginning with the emergence of email and personal computers. Jay Leib was working for Record Technologies Inc. as director of software sales and training in 1999, and the company was scanning documents into databases for clients. At one point the company printed and scanned legal documents related to a lawsuit with Microsoft. Leib thought that was inefficient, a waste of time and paper.

So he and his business partner, Dan Roth, decided to create a program that would help lawyers manage electronic documents for litigation. Their idea led them to purchase an e-discovery application. By 2000, Leib and his partner launched their own creation, Discovery Cracker.

THE RISE OF ARTIFICIAL INTELLIGENCE IN THE LEGAL FIELD: WHERE WE ARE AND WHERE WE ARE GOING

SERGIO DAVID BECERRA*

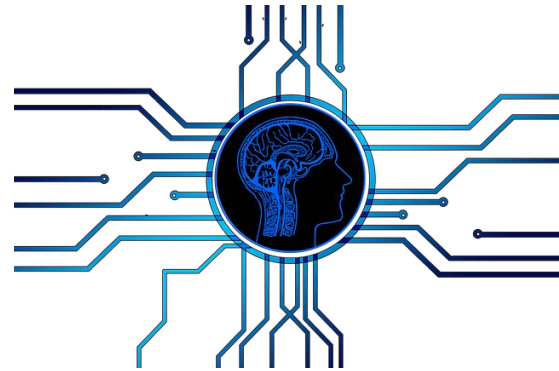
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- Products Resulting from Artificial Intelligence 42
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ABSTRACT

Twenty-first century has brought significant technological advancement to all aspects of our lives. The legal field, though slow in the adoption of technology, is beginning to pick up the pace. Artificial Intelligence is now used now to perform legal work once completed solely by lawyers. This Comment outlines what AI is and reviews the current use of AI in the legal field. It also identifies AI products and developments that are currently being used, and argues that lawyers will always be needed in the practice of law despite the continued growth of AI.

Intersection of AI & Law Practice

- Due Diligence / Document Analysis
- eDiscovery
- Legal Research
- Outcome Prediction



Legal Startups

\$3.9M AVERAGE VALUATION

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745 INVESTORS

6,701 FOLLOWERS

394 JOBS

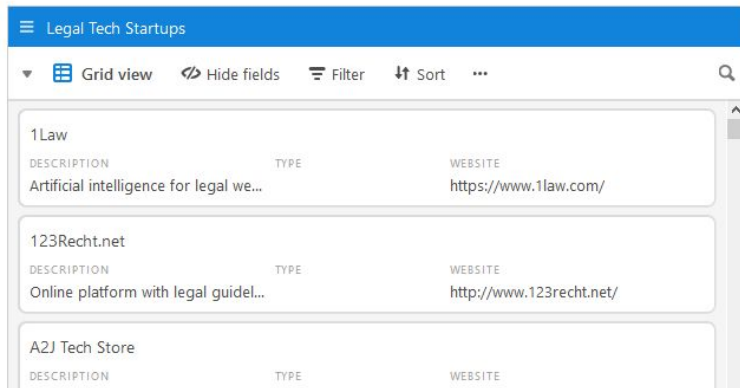
	Company	Joined	Followers	Signal	
◀ All Markets	 FiscalNote Connecting the World to their Gov... Washington DC - Legal	Jun '13	476		VIEW JOBS
PARENTS	 DocRun DocRun allows SMBs to create hi... Los Angeles - Small and Medium Businesses	Aug '11	240		
All Markets	 Lex Machina Legal Analytics - The Winning E... Legal	Jan '12	570		
	 Bridge US Reinventing the immigration proc... San Francisco - Professional Services	Dec '11	360		VIEW JOBS
	 LawPivot 99 Designs for legal California - Crowdsourcing	Sep '10	531		
	 Modria The Fairness Engine for the Inter... Silicon Valley - Reputation	Aug '11	551		

<https://angel.co/legal>

Legal Tech Startups

This is an attempt to create and maintain an accurate list of legal technology startups. For more information about why I created this list, see [this blog post](#). To notify me of additions or changes, send me an email at ambrogi-at-gmail.com.

Using this table: Click the view button to toggle between a grid or gallery view. Click any entry to expand it. Click the lower right corner for a full-size version. The filter button allows filtering of the list by country, status or any other field. Likewise, the sort button allows sorting by any field. The table is also searchable using the search icon.



The screenshot shows a table titled "Legal Tech Startups" with a blue header. Below the header is a toolbar with icons for "Grid view", "Hide fields", "Filter", "Sort", and a search icon. The table has three rows, each with a title, a description, a type, and a website.

	DESCRIPTION	TYPE	WEBSITE
1Law	Artificial intelligence for legal we...		https://www.1law.com/
123Recht.net	Online platform with legal guidel...		http://www.123recht.net/
A2J Tech Store			

ROBERT J. AMBROGI



Is a Massachusetts lawyer, writer and media consultant. He also writes the blog [Media Law](#) and cohosts the legal affairs podcast [Lawyer2Lawyer](#)

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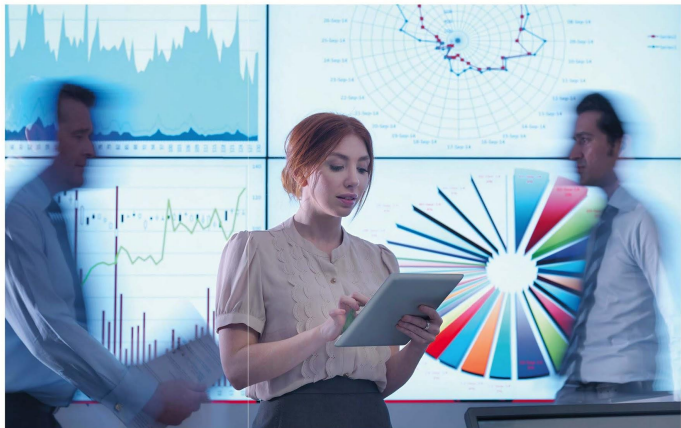
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<https://www.lawsitesblog.com/legal-tech-startups>

Discover Legal Technology

Explore a curated list of 1171 companies changing the way legal is done.

<https://techindex.law.stanford.edu/>

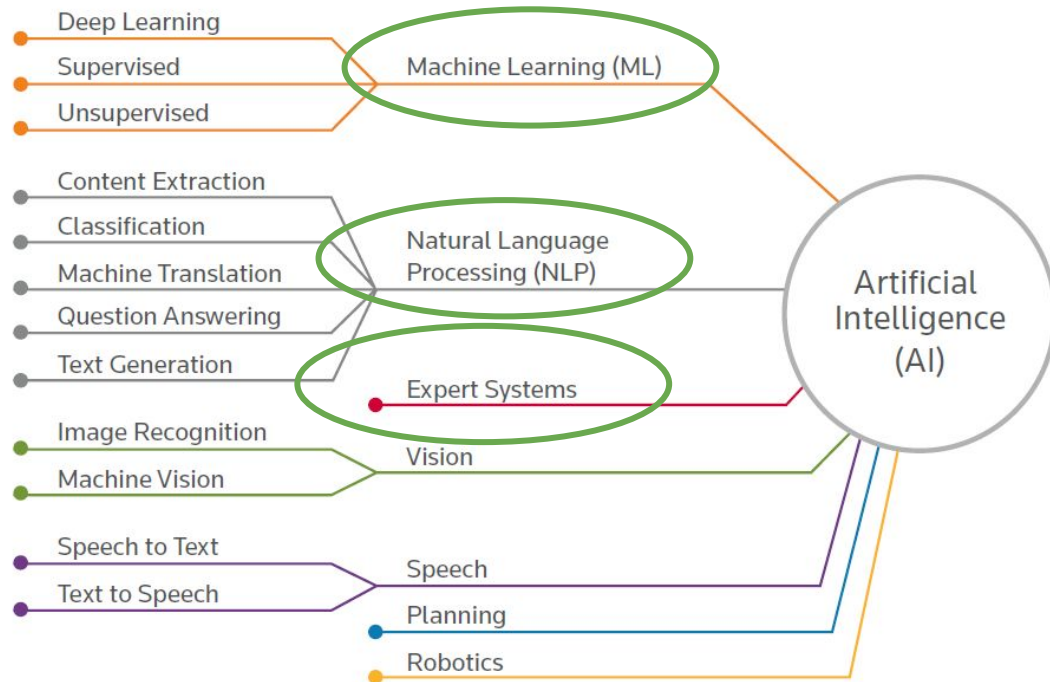


ARTIFICIAL INTELLIGENCE IN LAW: THE STATE OF PLAY 2016

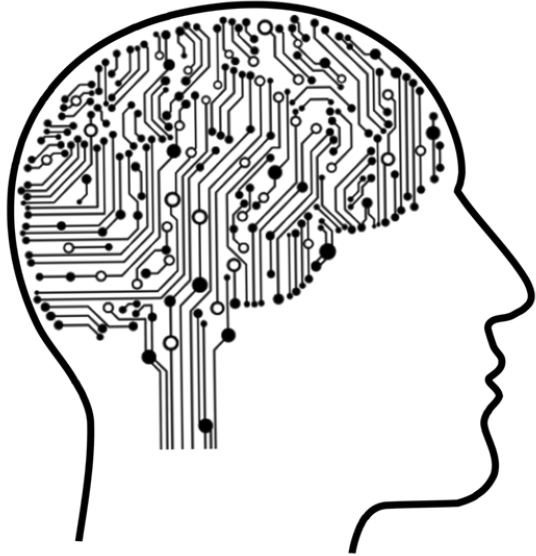
by Michael Mills

Artificial Intelligence (AI) and its impact and applications in the legal profession is examined in this white paper by Michael Mills, Co-Founder & Chief Strategy Officer of Neota Logic, a provider of intelligent software.

Mills analyzes AI – what the author calls a “big forest of academic and commercial work around ‘the science and engineering of making intelligent machines’” – and how AI is being implemented in legal areas such as e-discovery, legal research, compliance, contract analysis, case prediction and document automation.



Machine Learning



Machine learning facilitates the continuous advancement of computing through exposure to new scenarios, testing and adaptation, while employing pattern and trend detection for improved decisions in subsequent (though not identical) situations.

-*Machine Learning*, Techopedia,
<https://www.techopedia.com/definition/8181/machine-learning> (last visited June 4, 2019).

All content

what is the statute of limitations for fraud

IL (State & Fed.)



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What is the statute of limitations for fraud?

Illinois (State & Fed.)

The statute of limitations for fraud was also five years, and thus, they argued, counts V and VI should also be dismissed.

CitiMortgage, Inc. v. Parille Helpful?

Appellate Court of Illinois, Second District. · January 22, 0001 · 2016 IL App (2d) 150286 · 49 N.E.3d 869

Rather, the five-year limitation of section 13-205 is applicable to fraud-based and fraudulently concealed construction claims.

Henderson Square Condominium Ass'n v. LAB Townhomes, LLC Helpful?

Supreme Court of Illinois. · November 04, 2015 · 2015 IL 118139 · 46 N.E.3d 706

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Draft Analyzer

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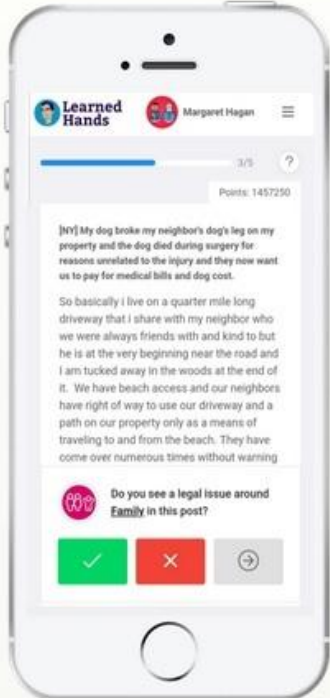
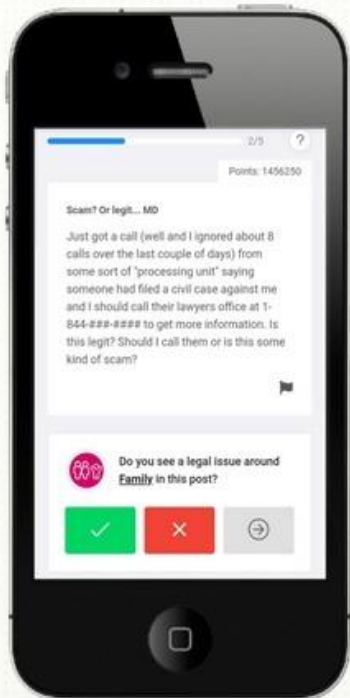
Analyze

How it Works

Draft Analyzer is powered by Exemplify™ – our patented software application that uses an algorithm to show you the developing consensus among drafters based on its analysis of each paragraph from virtually every agreement and organizational document filed as an EDGAR exhibit. Our system first categorizes each paragraph based on textual similarity and constructs one or more unified versions (“consensus templates”) for each identified cluster of similarly worded paragraphs. A consensus template reflects the most common language in the template’s source documents. It also identifies and quantifies areas of linguistic variance and displays the most common alternative words or phrases used in its source paragraphs.

Consensus Templates

When you input your own text, our proprietary algorithm will often identify multiple matching templates, each showing how your language differs from the consensus it represents. Template results are ranked by consensus size.



Learned Hands

Play this legal game, where you read people's stories about their problems, and spot what issues are present.

Your game-play builds Access to Justice AI models, that can automatically identify people's legal problems.

Play Now!

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<https://learnedhands.law.stanford.edu>

Natural Language Processing

Natural language processing (NLP) is a method to translate between computer and human languages. It is a method of getting a computer to understandably read a line of text without the computer being fed some sort of clue or calculation. In other words, NLP automates the translation process between computers and humans.

-*Natural Language Processing (NLP)*, Techopedia, <https://www.techopedia.com/definition/653/natural-language-processing-nlp> (last visited June 4, 2019).



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Jurisdiction +

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Wolters Kluwer [CCH]
Document Type +[Back to Secondary Sources](#)

Secondary Sources (10,000)

1 - 100 >

 Select all items - No items selectedSort: Relevance ▾
Relevance
Date
Most cited 1. UNDERSTANDING THE CHANGING LANDSCAPE OF DATA PROTECTION LAWS

Wyoming Lawyer · February, 2019 · 42-FEB Wyo. Law. 44 · Blake A. Klinkner, The Klinkner Law Firm, LLC, Cheyenne, Wyoming

As businesses and other entities have sought to collect more personal **data** on individuals, the public has pushed back, and law the United States and elsewhere have responded by passing **data protection** laws. Recent **data protection** laws passed by the by several states have already resulted in a number of lawsuits...

...The European Union's **General Data Protection Regulation** has been held up as a model for data privacy laws in the United States states have already enacted or are currently considering laws which mirror the **General Data Protection Regulation**...

...The **General Data Protection Regulation** applies to any entity that holds or uses data on individuals located within the European where the entity itself is located, and therefore a vast array of entities located within the United States will be subject to the **General Regulation**...

...[FN2] In order to avoid compliance issues and penalties concerning the **General Data Protection Regulation**, a number of U.S.-t by eliminating or severely limiting European access to their services; for example, major American newspapers including the Chicago Times, and Baltimore Sun took down their websites in European Union countries prior to the effective date of the **General Data**...

The Algorithm as a Human Artifact: Implications for Legal [Re]Search*

Susan Nevelow Mart**

The results of using the search algorithms in Westlaw, Lexis Advance, Fastcase, Google Scholar, Ravel, and Casetext are compared. Six groups of humans created six different algorithms, and the results are a testament to the variability of human problem solving. That variability has implications both for researching and teaching research.

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Search millions of legal authorities...



All State & Federal



Upload a complaint or brief to quickly find on-point case law.

CARA A.I. uses the facts and legal issues in your document to find relevant authorities.

Drag a complaint or brief here

Or, [select a file](#)

PDFs, Word docs, or text files



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Tips and tours **new**

An Example

Our client, Francisco, is a Guatemalan national and former officer in the Guatemalan army who is hoping to gain asylum in the United States. About one year ago, Francisco was quoted in a story appearing in Prensa Libre, a major newspaper based out of Guatemala City. In the story, Francisco was critical of the Guatemalan military and characterized his former colleagues as “corrupt.” He claims that, since the story appeared in Prensa Libre, several threatening notes have been left at his residence and his vehicle has been vandalized on multiple occasions. Although he is unable to definitively link these events to government agents, he is confident he is being targeted for intimidation and harassment. Recently, Francisco traveled to New York City for an international event and, rather than return home, he took up residence at a local hotel. For fear of his safety, he is hoping to gain asylum and stay in the United States.





Cantor Injury Law

by VoiceXP

Rated: Guidance Suggested

☆☆☆☆☆ 0

Free to Enable

"Alexa, start Cantor Injury Law."

"Tell me more about the law firm."

"What should I do if involved in a car or motorcycle accident?"

Shown in: English (US) See all supported languages

Manage this Skill

Disable Skill

By enabling, this skill can be accessed on all your available Alexa devices.



Description

At Cantor Injury Law, we will protect your rights and win you all the available money after an injury from a car accident, truck accident, work injury, or other cause. We handle only serious injury cases and know how to win. You do not need any money for us to help you. When you choose Cantor Injury Law to help you, we will tenaciously fight for justice on your behalf and will work tirelessly in order to maximize your compensation.

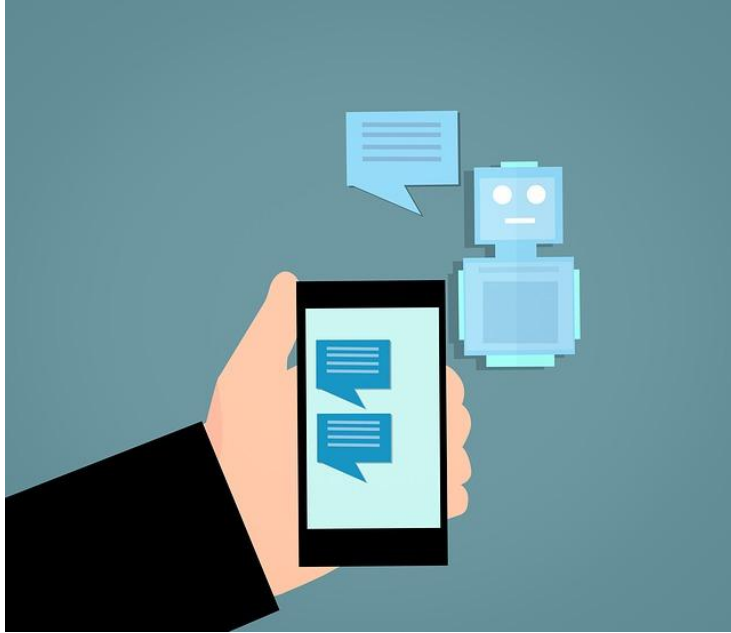
Use the Cantor Injury Law skill to get more information on what to do if you've been seriously hurt or want to know how the personal injury attorneys at Cantor Injury Law can help you.

Here's some of the ways you can use the Cantor Injury Law skill:

Start the skill by saying "Alexa, start Cantor Injury Law." You will be greeted by welcome message and a menu. While engaged in the Cantor Injury Law skill menu, you can ask questions or statements like:

- What should I do if involved in a car or motorcycle accident?
- Tell me seven reasons why I should choose Cantor Injury Law.
- How much do they charge?
- Tell me what I should do when a dog bites me.
- Tell me what I should do when I get injured on the job.

Expert Systems / Chatbots



An expert system is a computer program that is designed to emulate and mimic human intelligence, skills or behavior.

It is mainly developed using artificial intelligence concepts, tools and technologies, and possesses expert knowledge in a particular field, topic or skill.

-*Expert System*, Techopedia,
<https://www.techopedia.com/definition/613/expert-system> (last visited June 4, 2019).

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Markup

Style

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```
<!-- Note: you can turn on/off word wrap in this text area by clicking the checkbox below. Also, any text you
Q(1): Would you like to write an interactive QnA?
A: Yes.
  Q(1.1): Are you viewing this exchange in a window with the same text in two places, a text area on t
  A: Yes.
    Q(1.1.1): Cool. The text on the left, coupled with user interaction, defines how the bubbles
    A: Yes.
      Q(1.1.1.1): The text on the left is just a set of nested text blocks. The blocks sta
      A: What's the asterisk for?
        Q(1.1.1.1.1): Well, sometimes you do need the numbers, like when you want to
        A: What's that?
          Q(1.1.1.1.1.1): You can place a GOTO call at the end of a question (
          A: Yes. Again, again!
            Q(1.1.1.1.1.1.1):GOTO:1.1.1.1.1
            A: No. Let's move on.
              Q(myname): Instead of pre-defined answers/choices, you can a
              X:
                Q(1.1.1.1.1.1.2.1): Pleased to meet you <x>myname</x>
                A:[http://www.qnamarkup.org/syntax/] Yes.
                  Q(1.1.1.1.1.1.2.1.1): Feel free to edit what
                  A: No.
                    Q(1.1.1.1.1.1.2.1.2):GOTO:1.1.1.1.1.1.2.1.1
          A: No.
            Q(1.1.1.2):GOTO:2
        A: No.
          Q(1.1.2): Then head over to <a href="http://www.qnamarkup.org">http://www.QnAMarkup.org</a>.
A: No.
  Q(1.2): Okay then. GOTO:2
```

 word wrap | [report bug/issue](#)

Update Outputs

Save Markup to File

Output 

Interactive ▾

Would you like to write an interactive QnA?

Yes.

No.

[edit](#) | [code your own](#)



Welcome to Illinois Legal Aid Online's **Fee Waiver** program.

This program will [help](#) you prepare forms to participate in a court case for free.

The forms you create with this program can only be used in Illinois.

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How will I know if there is a fee for my case?

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1 FILING ON BEHALF OF ANOTHER?

INTRODUCTION





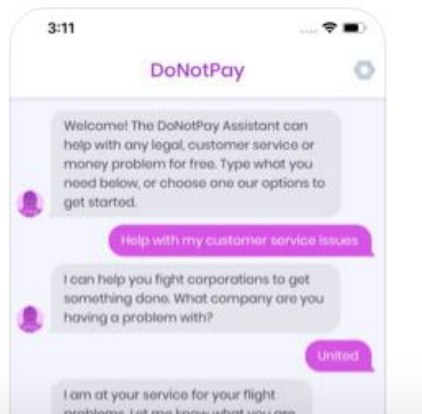
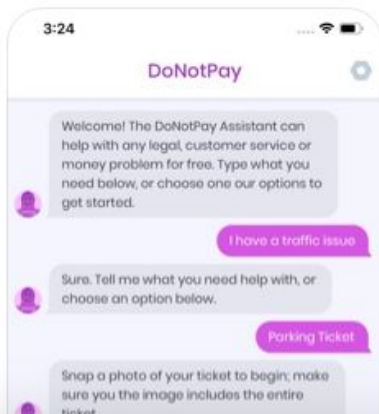
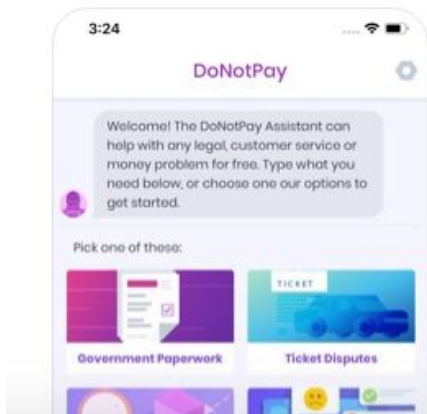
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joshua browder

★★★★★ 3.4, 237 Ratings

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Screenshots [iPhone](#) [iPad](#)



Opinion

OP-ED CONTRIBUTOR

When an Algorithm Helps Send You to Prison

By Ellora Thadaneey Israni

Oct. 26, 2017



In 2013, police officers in Wisconsin arrested a man driving a car that had been used in a recent shooting. The man, Eric Loomis, pleaded guilty to attempting to flee an officer, and no contest to operating a vehicle without the owner's consent. Neither of his crimes mandates prison time.

At Mr. Loomis's sentencing, the judge cited, among other factors, Mr. Loomis's high risk of recidivism as predicted by a computer program called COMPAS, a risk assessment algorithm used by the state of Wisconsin. The judge denied probation and prescribed an 11-year sentence: six years in prison, plus five years of extended supervision.

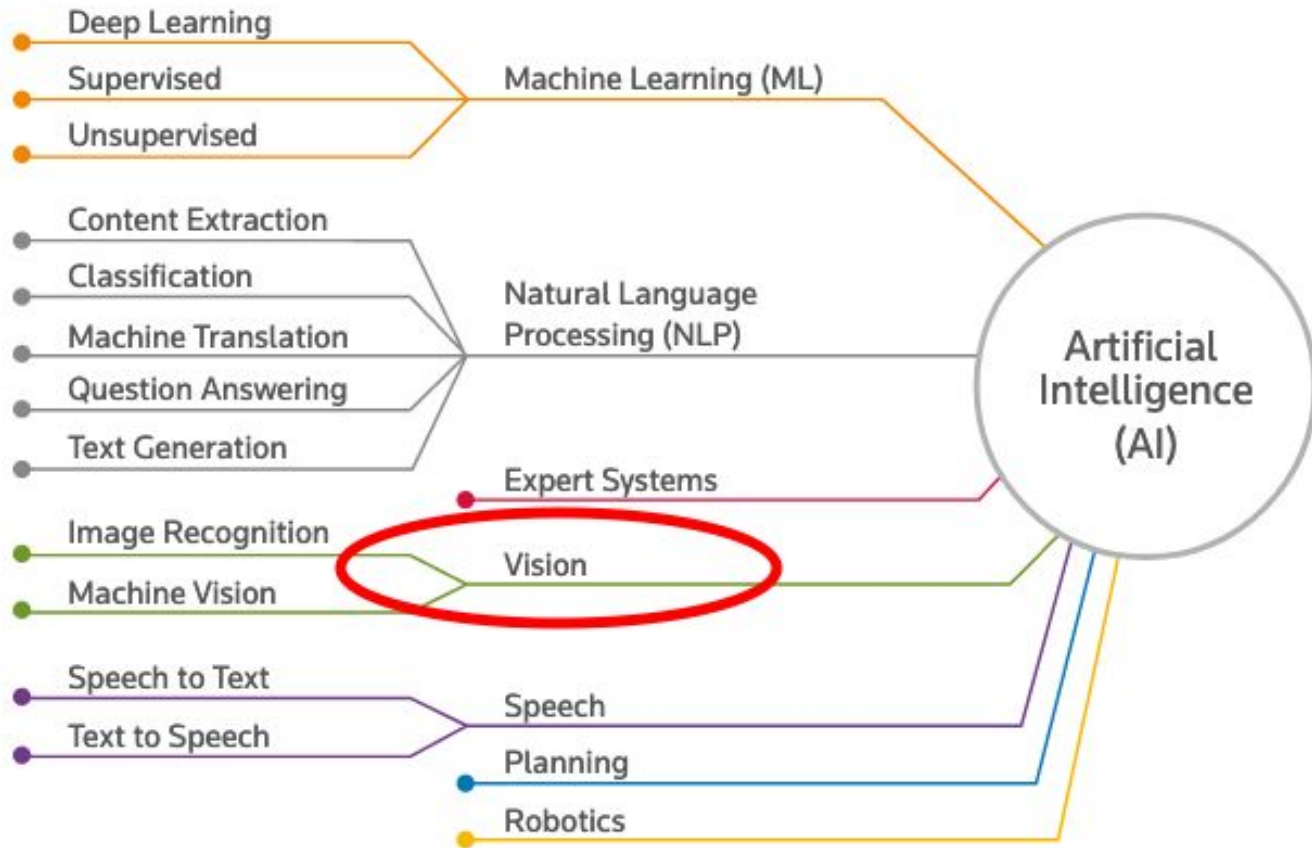


TECHNOLOGY AND IIOT

How Should AI Be Regulated?

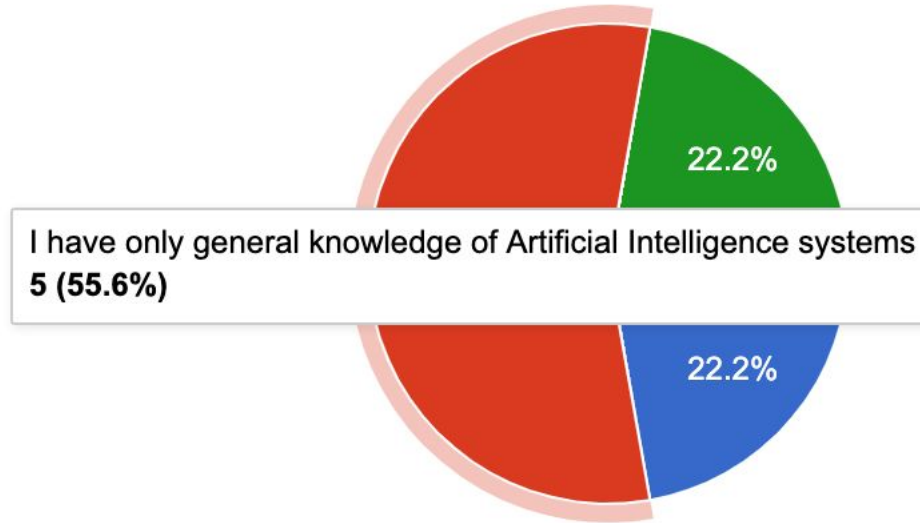
How'd It Go?





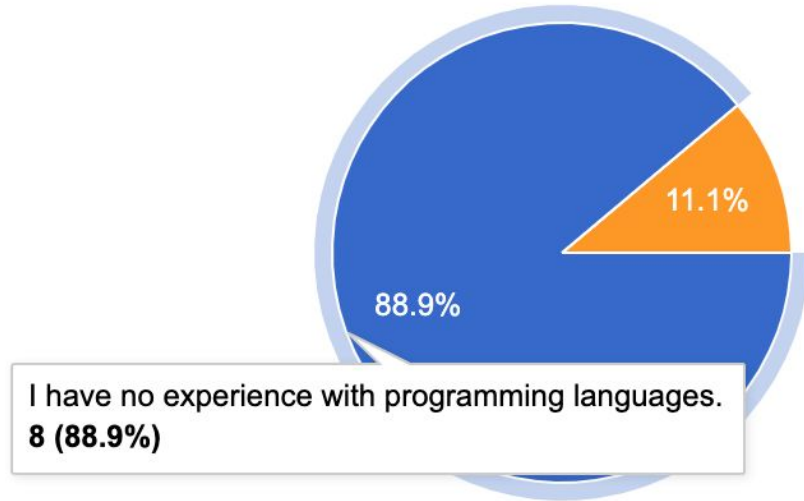
Learner Analysis

Knowledge of AI Systems



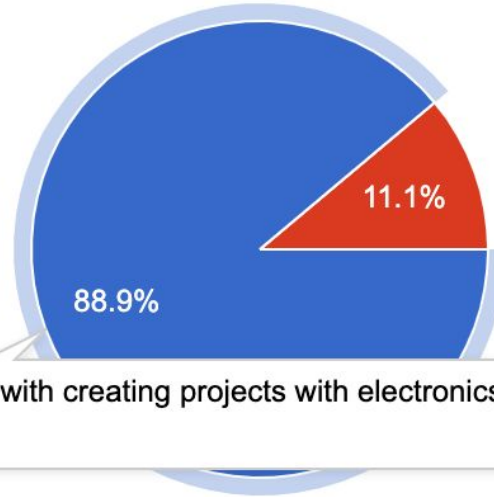
(Stephan Martone, 2019)

Programming Experience



(Stephan Martone, 2019)

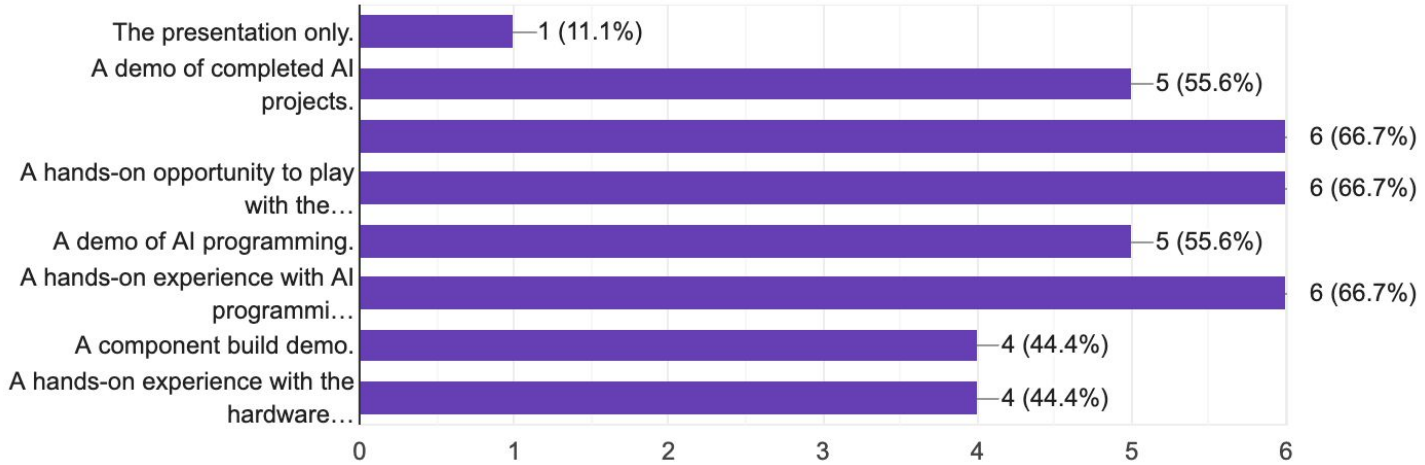
Electronics Experience



I have no experience with creating projects with electronics.
8 (88.9%)

(Stephan Martone, 2019)

Curiosity



(Stephan Martone, 2019)

Maker Skills

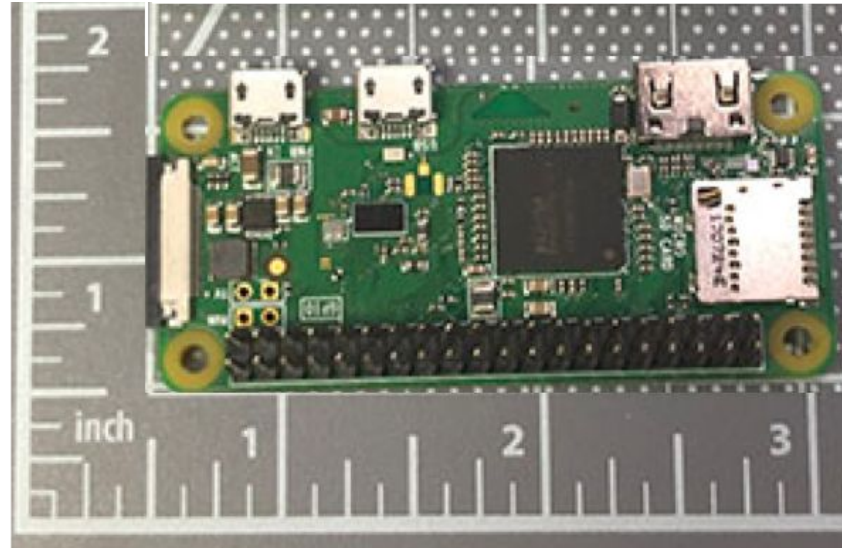
- Curiosity
- Hypotheses
- Inquiry skills
- Open mind
- Application of knowledge and skills
- Higher order thinking
- Iteration

(Stephan Martone, 2019)

AI Hardware Components

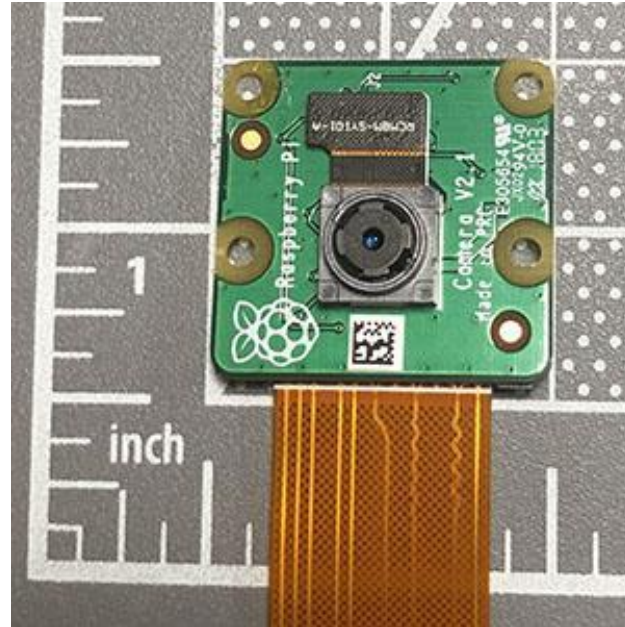
Main Processing Board

Raspberry Pi →



Input Sensor

Pi Camera



Teach an AI System

Train AI to Solve a Problem

The Culprit →

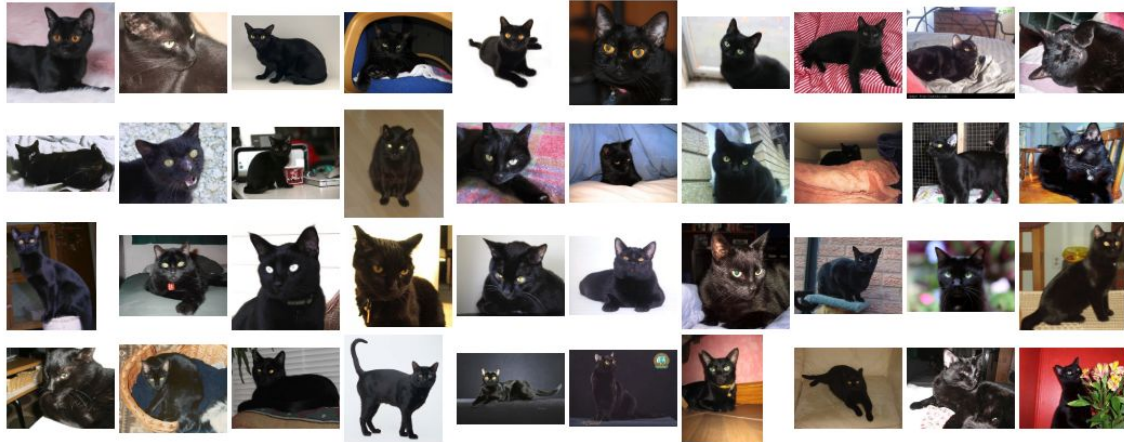


(Hart, 2018)

Context Matching

Visual Geometry Group

The Oxford-IIIT PET Dataset - Category: Bombay



(Visual Geometry Group, 2018)

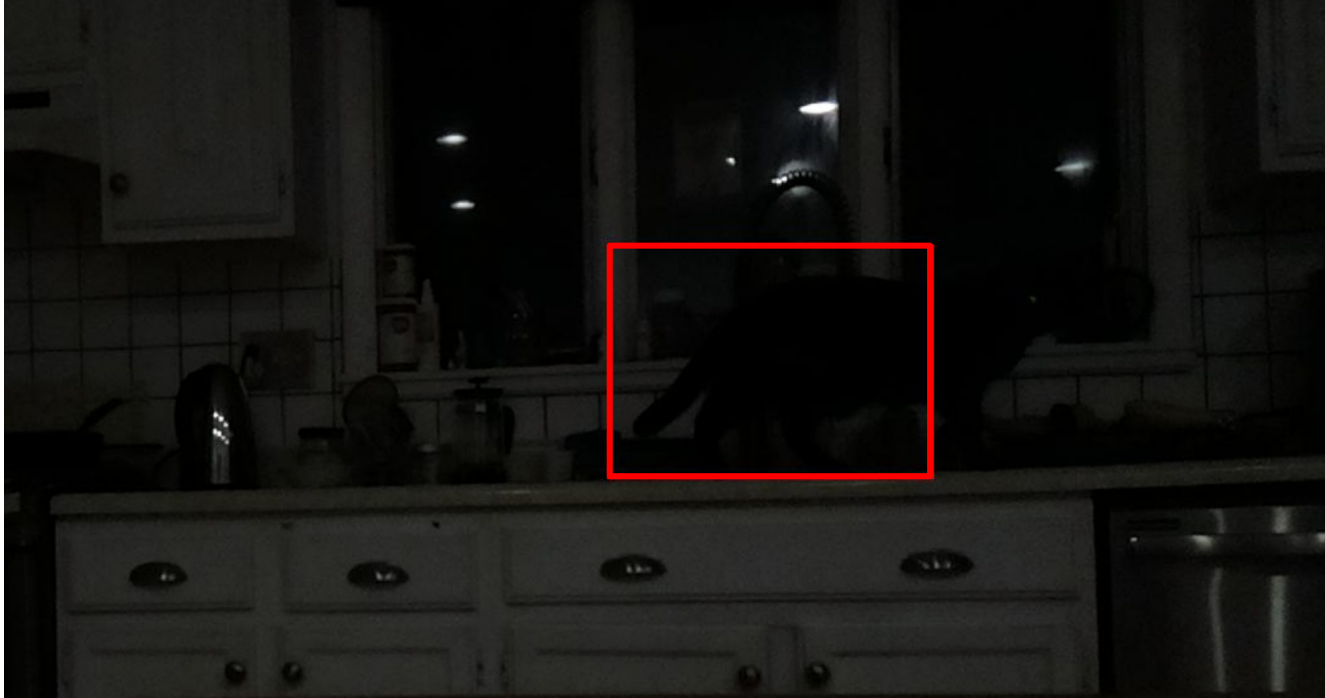
Public Data Set

Object #0: kind=PERSON(1), score=0.567637



(Hart, 2018)

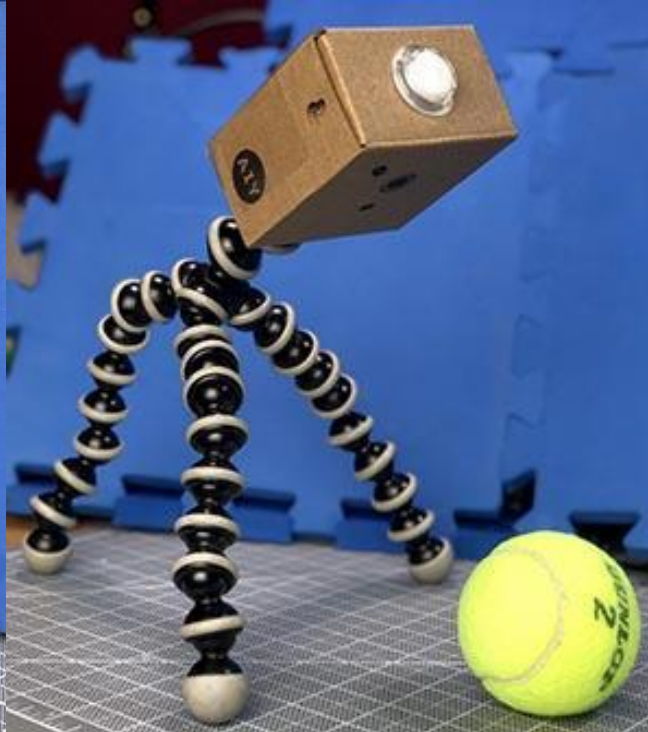
Custom Data Set: Results



(Hart, 2018)

Google AIY

AIY Kit





Robot Drone with Face Tracking Capability

Summative Evaluation

How did you feel about
the Hands-On Approach?

Did your Attitude
Change?

Would this be Useful in
Your Law Curriculum?

Questions?

References

Artificial neural network. (n.d.). Retrieved from https://en.wikipedia.org/wiki/Artificial_neural_network

Hart, C. (2018). Computer vision training, the AIY vision kit. Retrieved from <https://cogint.ai/custom-vision-training-on-the-aiy-vision-kit/>

Visual Geometry Group. (2018). Retrieved from <http://www.robots.ox.ac.uk/~vgg/data/>

From Concept to Concrete: Teaching Law Students about AI

