AI's *Infiltration* of the Legal Profession

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Common clues that AIs are at work:

"machine learning" or "cognitive computing"

- Supervised learning AIs

- Natural Language Processing

- Massive financial investments in legal tech, especially AI

- Study: 89% of large firms in London said they were already using or planned on using AI products

- Primary uses identified:
  - 63% for document generation and review
  - 50% for due diligence
  - 42% for research

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Predicting justice: what if algorithms entered the courthouse?

April 24, 2018 9.35am EDT

EDISCOVERY, SPONSORED CONTENT, TECHNOLOGY

How Artificial Intelligence Will Revolutionize eDiscovery

Understanding Artificial Intelligence in Contract Drafting

5 ways artificial intelligence is transforming document management

GENERAL

Artificial Intelligence in Legal Research

Artificial Intelligence and Law

December 1997, Volume 5, Issue 4, pp 249–261 | Cite as

Argument in Artificial Intelligence and Law

How Artificial Intelligence will impact professional writing

AI Proves to Be the Best Legal Mind for Contract Reviews

- Early 2000s: computer assistance products first appear
  - Studies: humans identify about half of the relevant documents but system identify more than 95% of them (2005)

- Technology Assisted Review (TAR) products use AI and coding
  - Juniors code sample documents and review the results to help system learn
    - Considers context as well as the exact words in the documents so will produce documents it thinks may be relevant and learns from the human saying yes or no
  - Yielded superior results to earlier products and required less human intervention
    - Judge recognized TAR a reliable method in 2012; noted it produced a "50-fold savings in cost"

- Results are only as good as the methodologies used to identify the documents to review
  - Lawyers must "train" the product to recognize what documents are relevant and potentially privileged
  - Review the results, through sampling

- TAR specialty teams or companies? MT >3 (formerly Wortzmans) for example

- Key part: a systematic review of objective information relating to the company to learn everything about the company
  - Example: Corporate governance, IP, debts, accounts receivable, litigation issues, client lists, employment contracts, environmental concerns, regulatory compliance, etc

- Study: "if used correctly", AI-based products can save lawyers 20-60% of the time

- JPMorgan developed Contract Intelligence to do their doc review tasks: in seconds it did the work it took their legal staff 360,000 hours to do

- Key ingredient: a substantial information base to draw upon

- Can identify clauses/terms to include in new contract
  - Increases uniformity between contracts

- More quickly and *accurately* review unknown contract
  - Identify ambiguous terms, internal inconsistencies, unused defined terms, unknown cross-references, capitalized terms not defined, mis-capitalizations, formatting errors, number errors, and unmatched punctuations

- Product claim: save 20-90% of a lawyer's time

- Inhouse counsels can spend 50% of their time reviewing contracts

- Traditional DMS act as a repository for the firm's documents and emails – managing, structuring and securing them
  - May include versioning management, document check-in/check-out, scanner integration, index/search capabilities, document tagging and profiling, and permissions
  - Email Management allows you to save emails to a project in the DMS

- Adding AI to DMS systems allow them to:
  - *Understand* your documents and more intuitively organize them
  - Extract and analyze key portions of documents and make connections between them and new matters

- Uses algorithms, modeling and AI to analyze the data and show connections between data points

- Some products can use the data to predict results in future cases
  - Studies predicting how courts/tribunals will decide cases

- Quite a few litigation-focused products popping up in the US

- Fewer in Canada as there is less legal data available
  - CounterMeasure and Blue J Legal

AI predicts outcomes of human rights trials

- AI product had a 79% accuracy rate at predicting the judicial decisions of the European Court of Human Rights (per a 2016 study)

- The first attempt to predict the outcomes of cases by "automatically analysing case text using a machine learning algorithm"

- Finding: ECtHR's judgments are "highly correlated to non-legal facts rather than directly legal arguments"
  - Most reliable factors for predicting the decision included the topics and circumstances mentioned in the case (including the factual background)

- Legal databases have used less sophisticated natural language algorithms to provide result lists for decades

- AI legal research products can now:
  — Provide answers (summaries of the law) and/or
  — Provide more precise results list (often with the portion of each case/document that best answers your question highlighted)
    - LoomAnalytics, eg

- Westlaw (US) says that its system can "analyze in-session usage patterns and then make recommendations"
  - Westlaw Answers provides an answer to "common legal research questions instead of just providing documents"

- LexisNexis US developed Lexis Answers
  - Uses "powerful machine learning, cognitive computing and advanced natural language processing technologies to deliver the single best and most authoritative answer"
  - How? "parsing the query to understand its intent and then delivering a precise answer to the question"

- ROSS was created at the University of Toronto in 2014

- Searcher using a natural language search; ROSS breaks down the question to determine the lawyer's intent, and then conducts the search

- ROSS learns from lawyers reviewing the results and improves with time and use
  - Over time "ROSS's answers become more representative of the answers you would have gotten from the human professionals themselves."

- "already saving 20-30 hours of research time per case"

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- Compared Boolean search, Natural language search, ROSS and boolean search and ROSS and natural language search on Westlaw and LexisNexis
  - Searchers had "*no prior experience with the assigned [database] and relatively minimal experience with bankruptcy law.*" (emphasis added)

- Results: "significant improvements in research time as well as researcher experience resulting from the use of ROSS"

- ROSS generated better results in terms of
  - Identification of relevant authorities,
  - Minimization of non-relevant results, and
  - Prioritized placement of relevant authorities in search results

■ Conclusion:

"findings indicate clear advantages resulting from the addition of the ROSS tool to electronic legal research involving traditional tools."

- Products can double-check your written work to ensure you haven't missed relevant cases or are relying on bad law

- US legal examples:
  - CARA, by Casetext
  - Eva, by ROSS
  - CaseIQ, by Case Mine

- Professionally irresponsible not to use one?

- U of Alberta comp sci professor (Randy Goebel) developed AI that can do legal reasoning

- It passed the Japanese Bar exam last year!

- Civil versus common law systems?

- For legal market, wants the AI to build summaries, do case law analysis and predict success
  - Most recent stage: have AI determine relationship between multiple cases
    - Released in Japan last Fall

- AI cannot replace lawyers when it comes to writing – yet

- If AIs are summarizing the law in response to legal research questions and writing bar exams, how long will it be before they can write memos?

- Some AI writing tools currently exist which would be useful for lawyers, such as Atomic Reach which focuses on the readability of the written content

- AI powered tools have been writing sports and news stories for several years
  - Editors create templates of potential stories
  - Bot connects to data source and identifies relevant information
  - Bot selects best template for information, merges them and publishes the article
  - Can identify trends and unexpected margins, etc

- Japanese novel competition open to non-humans; an AI written novel made it past the first round
  - Humans determined key aspects like plot and gender of characters
  - Developed some sentences which the AI then used autonomously
  - Novelist reader said it was a well-structured novel but had some problems with character development

- New Grimm-like fairy tale written with AI released last month
  - Used predictive text coding on all available fairy tales to identify commonly used phrases and kinds of words
  - Humans drafted fairy tale, with AI telling them the language to use to mimic Brothers Grimm

- AI Poetry
  - Publication solely for AI generated poetry: CuratedAI
    - Is called "a literary magazine written by machines, for people"

  - An example of how poems are written: Google gave an AI thousands of unpublished poems, then gave it two lines to use in the poem and the AI wrote an original poem

CuratedAI

A literary magazine written by machines, for people.

✉ Email

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[ ]

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Fish

by Deep Gimble II

fish away
you like those long black
houses where her branches roll
where flowers hang bare
water there
for gold trees upon heaven
about some air
before thee an emerald
world among water but
her shadow there
like their bright
eye seems near

Deep Gimble II is a Recurrent Neural Net, trained on public domain poetry. This poem was seeded by the initial word. Line breaks were modified.

- Kim: "Legal Virtual Assistant"
  - Will "take on many tasks for lawyers, combining RiverView Law's legal domain expertise with automation, expert systems, report, visualisations and artificial intelligence." http://www.riverviewlaw.com/meet-kim-the-power-behind-riverview-laws-legal-virtual-assistant-plans/

- LISA, aka "RobotLawyer"
  - Is an legal intelligence support assistant
  - Programmed to help two business people "find a commercially sensible middle ground for [their] basic legal needs"

- LISA will help them:
  - Understand terms and commercial law principles
  - Find middle ground on issues
  - Answer basic legal questions and documents drafted and negotiate fair agreement
  - Assess whether parties fall within the law or now

THE
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LEGAL AI
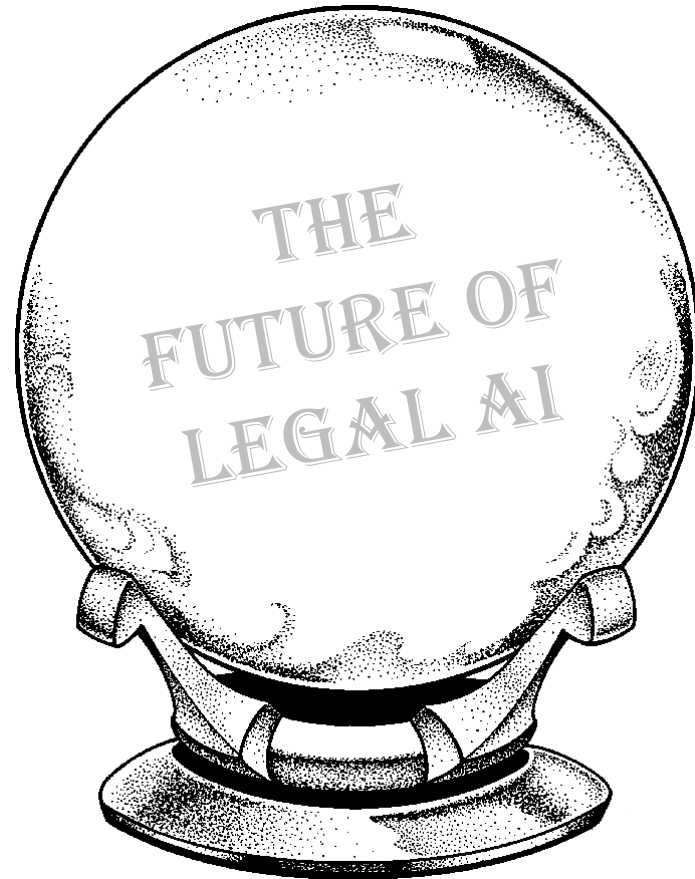
- Potentially very significant impacts on access to justice as under- and un-represented individuals will be able to seek legal assistance

  - Lower prices means more people can seek legal assistance from law firms or ALSPs
  - Bots can explain the law and provide tailored information
  - Enhanced self-help legal document drafting tools
  - Online dispute resolution and mediation
  - Virtual tribunals and courts processes

- The quality of the results is dependent on the quantity and quality of the data it has access to

- Will public and private entities make their data available?

- Will government entities standardize the structure and/or coding of their documents so more easily analyzed?

- Will firms agree to share anonymized internal data for better analytics?

- To differentiate, firms will want products to be highly customizable

- Why can do it? In-house, independent contractor or product's specialist needed?

- Compatibility between products to increase their effectiveness?

- **More competitive marketplace**
  - Corporate legal departments
  - Consulting and insurance companies, banks, and ALSPs
  - Small firms able to take on larger matters
  - Enhanced self-help options for consumers
    - Online dispute resolution
    - Obtain legal explanation or even tailored legal advice from AIs
      - Will people trust this advice?

- **Mid-size firms squeezed by larger and smaller firms?**

Large firms ready to invest in legal tech?

BIGLAW, SMALL LAW FIRMS

Don't Be 'Idiotic' — Yes, Law Firms Really Have To Change

Change or perish.

By KATHRYN RUBINO

May 23, 2018

May 23, 2018 at 4:54 PM

Above the Law, May 23, 2018

- Firms needs to consider the timing of their participation with legal tech

- What role do they want to play: technology innovator or user?

- Are the partners willing to put the long term best interests of the firm ahead of their own short term financial gain?
  - Dentons NEXTLAW Labs
  - Clifford Chance's Application Development and Support Services unit Tech Academy portal

- New staffing models?
  - Partners or executives?
  - Need or want lawyers with technological skills?
  - Technology specialists having senior and respected roles?
  - Positions/roles eliminated?

- Increased use of alternative fee arrangements

- New reward system needed?

- Legal AI canary in the coal mine?

- Study: "high risk category"

- Performs similar "grunt" work tasks as junior associates – how much higher level tasks will they have opportunity to do?

- Able to own alternative legal services provider and offer basic legal services with Kim or Lisa?

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- Tech startup CEOs and most pundits – AIs will support, not replace, lawyers

- Consulting companies: AIs will be integrated in legal work by 2030 and will impact lawyers' workloads by 20-40%

- Lawyers less likely to be replaced than other legal personnel as they have more "higher level" responsibilities that differentiate them from AIs

- Whether specific firm needs as many lawyers will also depend on the volume of new work they can bring in due to reduced costs and expertise gained in new practice areas thru AI

- What knowledge or skills will new lawyers need in the future?
  - Short term: Is awareness of the roles of legal tech enough?
  - Future: Will we need to offer more tech development courses?

- Some American law schools have invested significant sums of money into innovative legal tech labs or institutes
  - Ryerson developed their Legal Innovation Zone before a law school

- Will law societies begin requiring tech CLE credits to ensure lawyers are technologically competent?

- All futurists see roles for law librarians in this intense information age

- Replaced by legal research AI? Any roles in that activity?

- Roles building on information skills:
  — Knowledge management
  — Competitive intelligence
  — Business development
  — Process improvement
  — Data shepherd (Mona Datt)

- Roles on development teams themselves?

- How should the librarianship profession address this in the next decade? Started by dropping "library" and the emphasis on "information" in their program name?

- How should CALL/ACBD address this in the near and medium term?

- What can individual librarians do to enhance their skills and expand their roles?

- Should we consider distant "what ifs"?

- Will lawyers cease to apply their
professional judgment to the AI's recommendation?

- Could lawyers be in trouble with law
society or be sued for not following the AI's recommendation?

- Autonomous legal AI?

Stephen Hawking (Wired, Nov. 2017):

"I fear that AI may replace humans altogether. …

[S]omeone will design AI that replicates itself. This will

be a new form of life that will outperform humans."

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