The Roller-Coaster History of Artificial Intelligence and its Impact on the Practice of Law

University of Richmond Law School

Sharon D. Nelson, Esq. & John W. Simek
snelson@senseient.com; jsimek@senseient.com
www.senseient.com - 703.359.0700
“It’s the most exciting thing going on . . . It’s the big dream that anybody who’s ever been in computer science has been thinking about.”
“I think we should be very careful about artificial intelligence. If I had to guess at what our biggest existential threat is, it’s probably that. . . . With artificial intelligence we’re summoning the demon.”

-Elon Musk
The concept of AI goes back for centuries, but by other names

- Borrowed minds
- Mimicking the brain
- Thinking machines
- Intelligent computing
- Neural networks
- Deep learning
- 1950 – The Turing Test – can you distinguish between a human and computer?

Alan Turing
Isaac Asimov 1950, I, Robot
1956 – Dartmouth Summer Research Project on Artificial Intelligence

- Still talked about thinking machines
- Prominent mathematicians and scientists
- One was Marvin Minsky, co-founder of MIT’s AI Lab
- Funding followed the conference
1974-1980 – The first AI “Winter”

- Government funding halted – computing limitations prevented true advancement of AI
Interest revived in the 1980s

- Rise of expert systems
- “If-then” decision making
- Still primitive
- Proponents promised what they couldn’t deliver
- Disappointment in the $1 billion a year industry
- Mid-90s – the second AI Winter set in
Gartner’s “Hype Cycle”

- New technologies
- Heighten expectations
- Tech falls short
- Interest declines
- Tech finds productive uses
Marvin Minsky and Seymour Papert publish “Prologue: A View from 1988”

- Why has progress in AI been so slow?
- Researchers who don’t know its history “have continued to make many of the same mistakes that others have made before them.”
John Markoff in 2005

- *New York Times* technology reporter
- “At its low point, some computer scientists and software engineers avoided the term artificial intelligence for fear of being viewed as wild-eyed dreamers”
The long Spring of AI

- 1997 IBM’s Deep Blue defeated World Chess Champion Gary Kasparov
2011 – IBM’s Watson Wins Against Jeopardy’s Champions

- Ken Jennings – longest winning contestant (74 times)
- Brad Rutter – won the most money – more than $1,000,000
2012 – Deep learning

- Deep learning: A complex superstructure of algorithms that enables computers to process high-level abstractions, that is to think more like a human
- Google employed deep learning when an array of computers studied 10 million images to figure out, on its own, what a cat is
- Most major car companies, Microsoft, IBM, Facebook – investing heavily in AI
Some things are harder to recognize and confuse AI.
Chihuahua or blueberry muffin?
Sheepdog or mop?
Google, Facebook, Amazon – AI?
Siri, Cortana, Alexa – AI?
Lee Sedol was an 18-time world Go champion – Go is an ancient Chinese game played with black and white stones – win by surrounding more territory than your opponent. More complex than chess.
AI in Law – Performing tasks faster
Delivering better outcomes to clients
Gartner prediction

- AI expected to have revenues of $200 billion in 2018
- 72% of people expected to interact with AI by 2022 – the percentage was 11% in 2017
Thanks to Neota Logic’s Michael Mills
• Law firms investing in AI directly, partnering with IBM Watson and Ross Intelligence – and others
• Legal tech startups employing AI
• Traditional publishers investing in AI – Thomson Reuter has partnered with IBM Watson, Bloomberg DNA developing litigation analytics
• Fastcase AI Sandbox
It’s a Kodak moment for law firms

- Kodak actually invented the first digital camera in 1975
- Thought developing digital cameras would cannibalize its film business
- Thought they had plenty of time to prepare for the digital camera era – ten years at least
Routine legal work

- Already being outsourced to Axiom, Thomson Reuters, Elevate and the Big Four accounting firms
- Dentons, a global law firm with more than 7,000 lawyers, established an innovation and venture arm, Nextlaw Labs, in 2015. Besides monitoring the latest technology, the unit has invested in seven legal technology start-ups
- “Our industry is being disrupted, and we should do some of that ourselves, not just be a victim of it,” John Fernandez, chief innovation officer of Dentons
“Where the technology is going to be in three to five years is the really interesting question,” said Ben Allgrove, a partner at Baker McKenzie, a firm with 4,600 lawyers. “And the honest answer is we don’t know.” March 19, 2017 NYT.
AI is here and increasingly successful – no AI winter in sight

- The AmLaw 200 gets it – board the train or be left behind
- They need AI to remain competitive
- Most are invested in AI or planning to invest
- Filtering to smaller firms may take time – but not long
The AI Dance

- Is getting faster/more complex
- More money / Moore’s Law will make it faster still
- In law, it will both take and replace jobs – hazy at the moment
- At the moment, we see the future of AI only through a glass, darkly