

Artificial Intelligence for Financial Services

Becker+

October 26, 2019



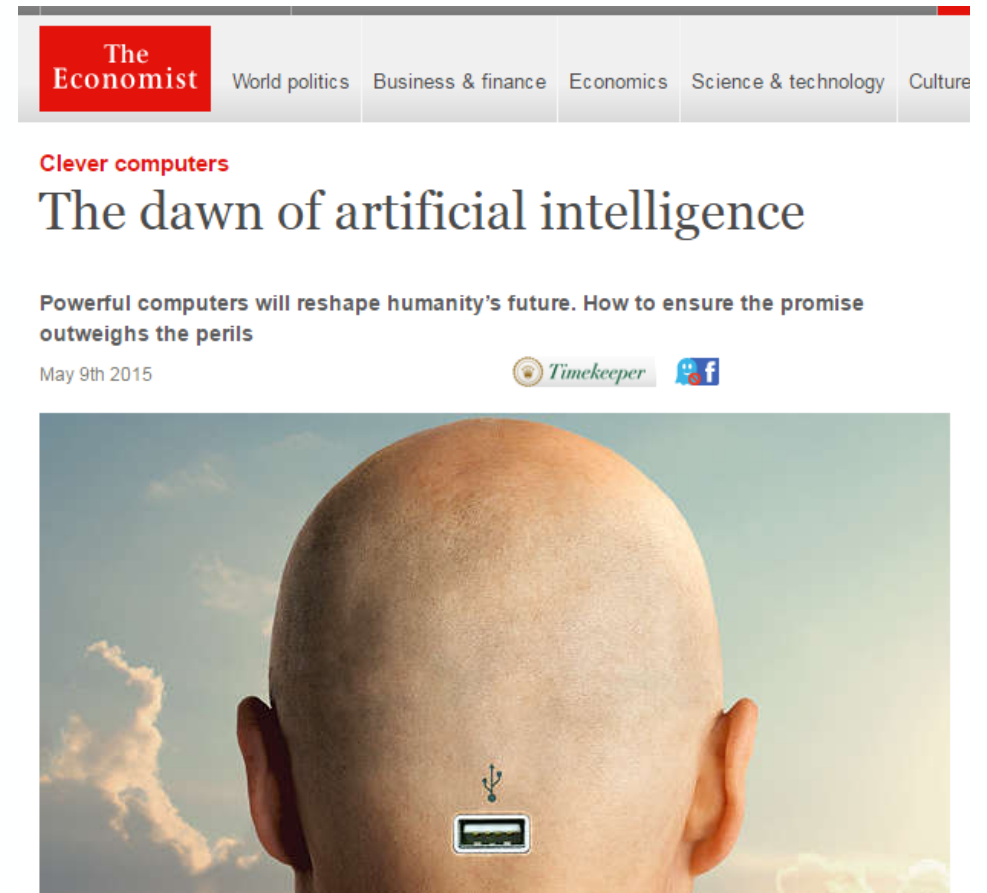
Impact of A I

Two schools of thought



A Brave New World...

- "The development of full artificial intelligence could spell the end of the human race," Stephen Hawking warns.
- Elon Musk fears that the development of artificial intelligence may be the biggest existential threat humanity faces.
- Bill Gates urges people to beware of it.



What is the Immediate Future of AI

What Surveys say:

- 85% expect AI will give them a competitive advantage
- Adoption of AI isn't matching up: just 1 in 5 of companies use AI in some way
- Only *1 in 20* incorporate it extensively
- Less than 39% of all companies have an AI strategy in place
- "There is a difference between efficiency and competitive advantage.
- If everyone can do something 10 times faster, how does that make me better?
- The surveys found "cautious optimism" about how AI will affect employment.
- Most don't expect AI to reduce their work force in the next five years, but say it will require employees to acquire new skills.

A I's Effect on the Workforce

Times are a changing



Source: MIT / Boston Consulting

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Proprietary and Confidential

AI - What's it all about



Introduction



https://adtalem.instructure.com/courses/114/pages/lesson-1-what-is-ai?module_item_id=5138



History of AI

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Big Ideas!

Computers are replacing human functions

- Answer the phone
 - Route calls
 - Schedule appointments
- Interact with customers
 - Phone, SMS Text, On-line, email
 - Answer-bots
- Bookkeeping / accounting
- Assist in auditing
- Run environmental systems
 - HVAC, lighting
- Schedule workflow

DISCOVER

VIDEO

BIG THINK FOR BUSINESS

BIG THINK

Big Idea: Technology Grows Exponentially

The doubling of computer processing speed every 18 months, known as Moore's Law, is just one manifestation of the greater trend that all technological change occurs at an exponential rate.

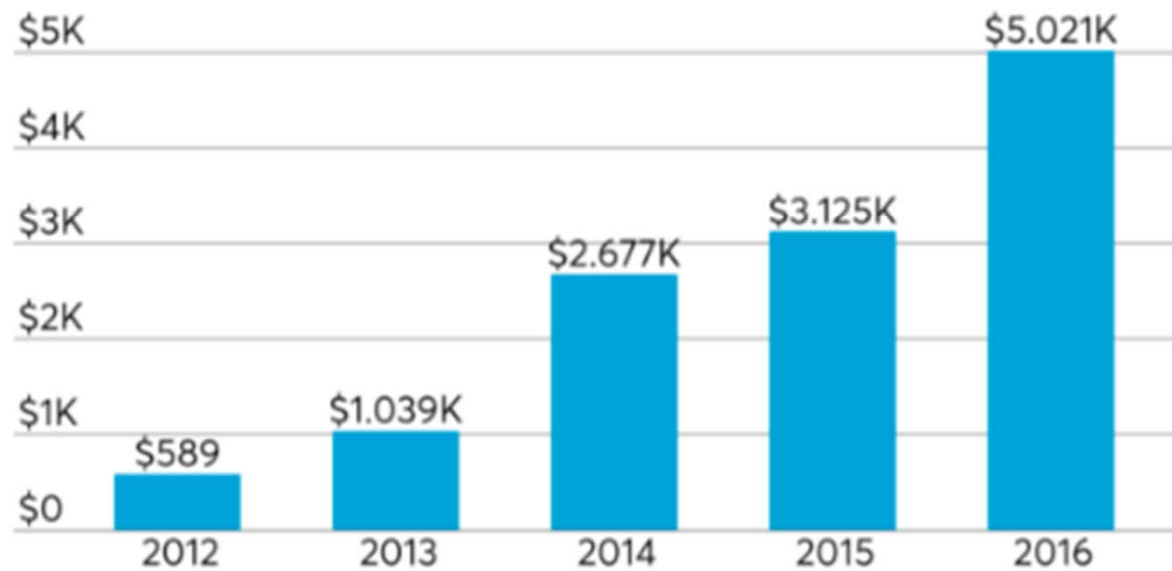
The Move is Accelerating



Where the Money is

AI: Where the money is

Venture funding for artificial intelligence companies, in \$M



Source: CB Insights

Your Computer May be Doing Your Work...

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Home

Digital enterprise

Cloud apps & processes

Technology disruptions

Partner Zone

Finance and accounting – next target for the robot revolution?

 By **Chris Middleton** September 15, 2015

SUMMARY: The finance function will soon bend to the robot revolution, argues the Association of Chartered and Certified Accountants. Chris Middleton isn't sure this is a good thing.

It's No Longer the Future



32,889 views | Nov 14, 2017, 10:00am

EY, Deloitte And PwC Embrace Artificial Intelligence For Tax And Accounting



Adelyn Zhou Contributor ⓘ

Source: Forbes Magazine

AI History



https://adtalem.instructure.com/courses/114/pages/lesson-2-the-history-of-ai?module_item_id=5139



AI Today



Artificial Intelligence – Defining It

A Group of Related Technology

1. Natural language generation
2. Speech recognition
3. Virtual agents
4. Machine learning platforms
5. AI optimized hardware
6. Decision management
7. Deep learning
8. Biometrics
9. Robotic process automation
10. Text analytics and natural language processing



AI in Natural Language Generation

Customer service, report generation

Attivio

BIG DATA SEARCH AND DISCOVERY

Provides immediate visibility into the right information.

SEMANTIC ENRICHMENT

Automatically discovers the meaning and relationships in your information ecosystem.

DATA UNIFICATION

Unifies disparate information across silos in real time to deliver unique insights.

AGILE ENTERPRISE PLATFORM

Secure, scalable foundation for delivering data-driven applications.

TECHNOLOGIES



Semantic Data Catalog



Text Analytics



Enterprise Search

THE ATTIVIO PLATFORM

AI in Speech Recognition

Transcribe and transform human speech into computer comprehensible format

OpenText



AI in Virtual Agents

From simple chatbots to advanced systems

- Amazon

amazon echo

Always ready, connected, and fast. Just ask.



What is Alexa, and how does she work?

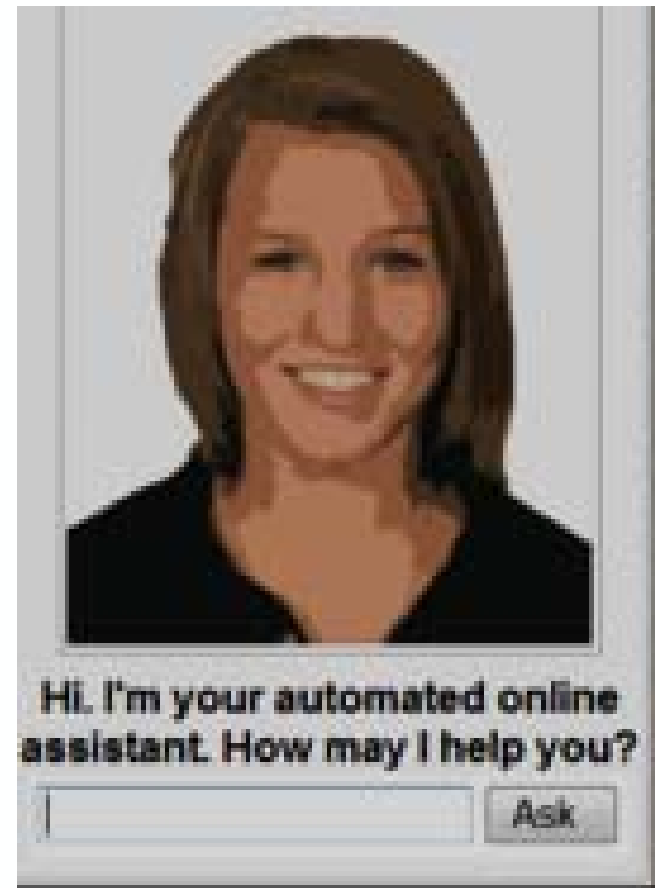
Alexa is a "virtual assistant," which isn't a new concept in tech.

Chances are you're already familiar with [Siri](#), [Cortana](#), [Google Now](#) or Watson—or with any of the countless fictional virtual assistants we've seen portrayed in the last half century or so's worth of sci-fi flicks

Virtual Agents

Intelligent interactions

- On line or on phone
- Some technologies:
 - Pre-recorded audio
 - CRM software
 - Avatars



AI in Machine Learning



- Algorithms, API's, toolkits to design, train and deploy models into applications & processes
- Mostly involving prediction or classification
- Fractal Analytics



Products

Cuddle ®

An AI-based personal analyst that helps you discover more to accomplish more ...

Customer Genomics ®

A personalized marketing platform that addresses customer acquisition, valuation ...

Trial Run

Optimize Your Business Experiments for Greater Insight, Performance and Efficiency ...

Concordia ®

A data delivery service that leverages a flexible, scalable data harmonization platform to solve....

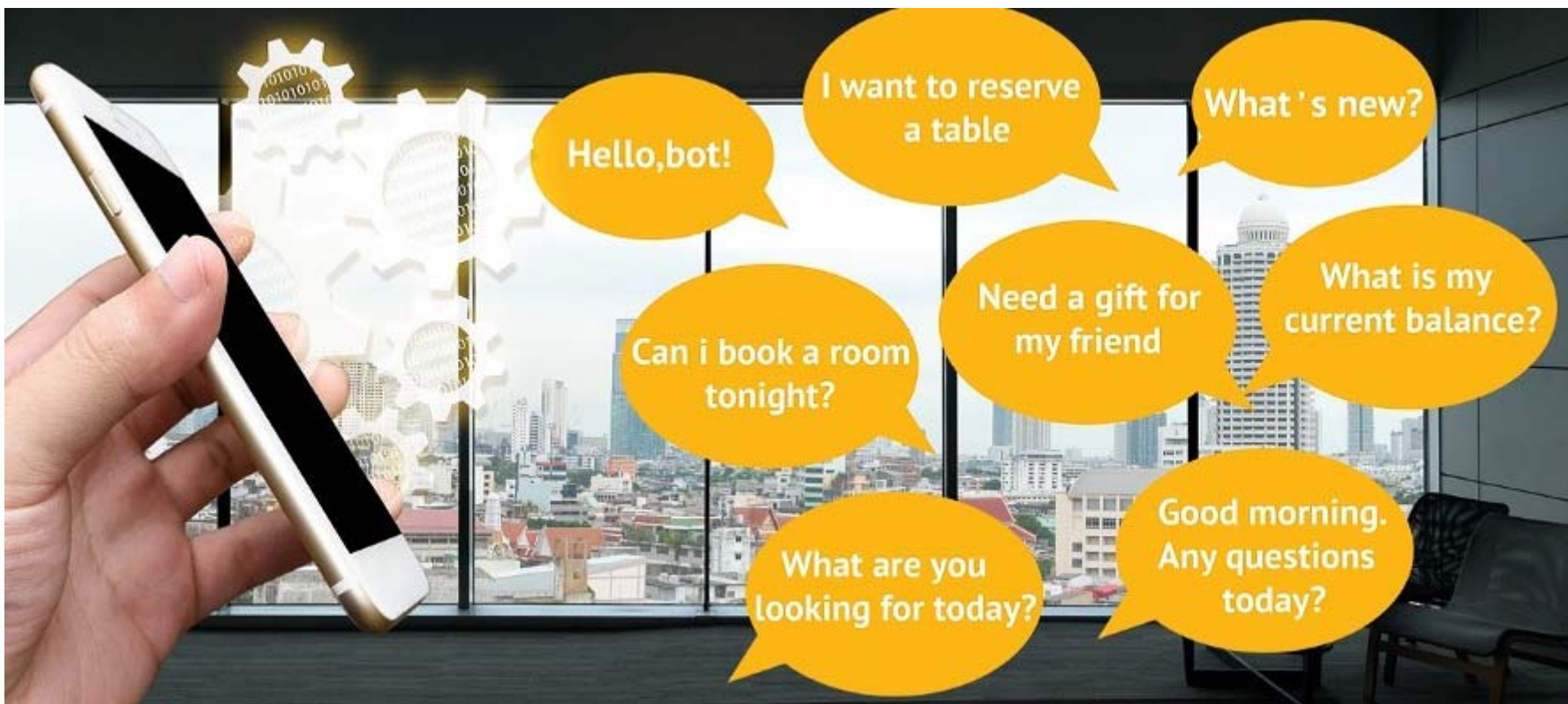
AI in Chatbots

How about someone 24/7 available on your Website / Facebook / Portal

- Answer basic questions On-demand
- Schedule appointments
- Receive and review information
- Interact with clients

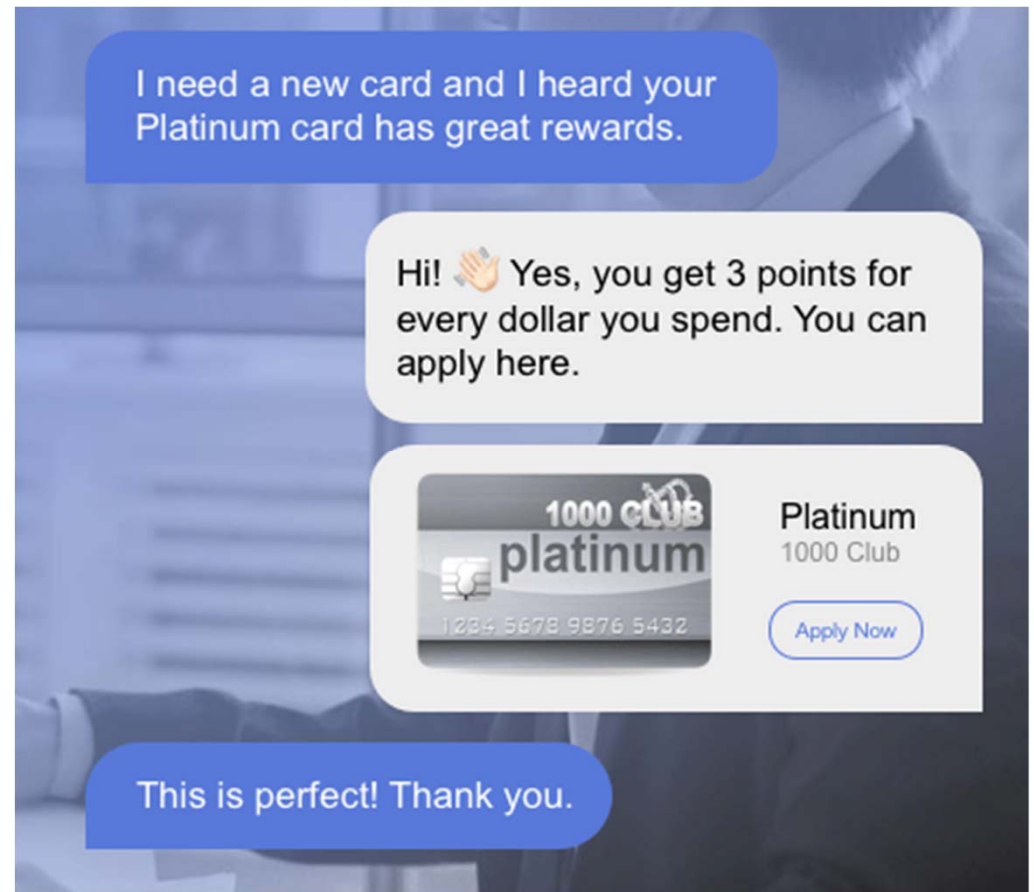
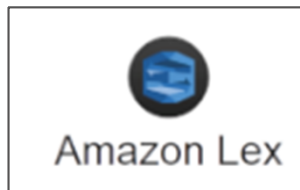


What Can a Chatbot Do?



Some Popular Chatbot Tools

- Liveperson.com
- Chatfuel
- Beep Bop
- ChattyPeople
- Meokay



State of AI Today



https://adtalem.instructure.com/courses/114/pages/lesson-3-the-state-of-ai-today?module_item_id=5140



You might be talking to a computer...



Artificial intelligence is coming

- Automated customer service
- Automated appointment setting
- Automated client interaction
- Automated processes, such as bookkeeping

"Deep Face" facial recognition—Facebook

- Can't remember that client... your automated assistant will...

You might be talking to a computer...

- Cognitive Agents
- Digital Employees

Amelia

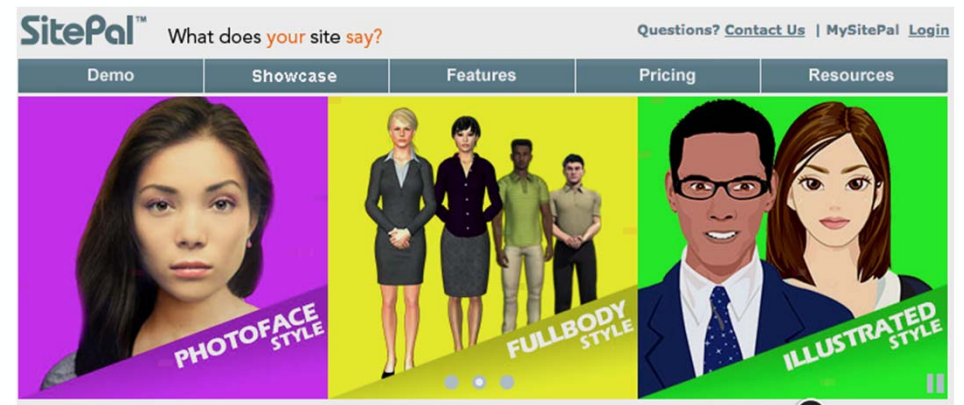
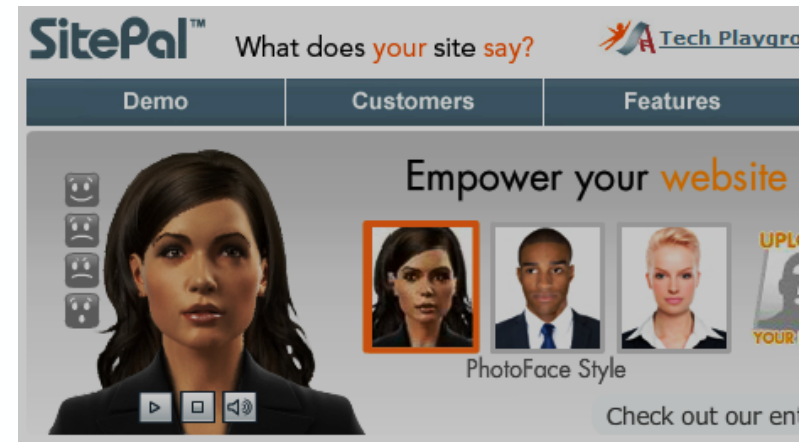
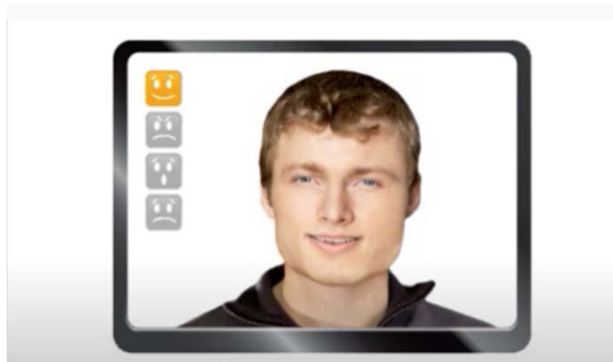
Your first Digital Employee

Amelia is a cognitive agent who can take on a wide variety of service desk roles and transform customer experience. Just like a human she communicates with customers using natural language.



Avatars for your Website or Phone

- Communicate with realistic "people"
- \$10/mo (www.sitepal.com)



AI in Financial Service

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How likely are you to Use AI in the Next Few Years?

- Chatbots
- Automating number crunching
- Interfacing & reconciling different data streams
- Making adjusting entries
- Compiling financials
- Gathering data for tax returns
- Pro-forma tax returns
- Generating tax return workpapers
- Reviewing tax returns
- Preparing tax plans
- Preparing financial plans



Will Computers be Doing Your Work?



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Finance and accounting – next target for the robot revolution?

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H&R Block and Watson – Tax Prep with AI

- HOW EXACTLY DOES THE APPLICATION WORK?

The technology is designed to highlight areas of possible tax implications based on a personalized cognitive interview. When a client first sits down to work with their Tax Pro, Watson ingests that initial conversation about what has happened with the client in the previous tax year – home purchases, marriages, birth of a child, somebody entering school or leaving the military – and helps H&R Block Tax Pros draw insights on areas where tax implications are expected.

The client is able to follow along and view progress on their own dedicated 23" monitor as the Tax Pro guides them through the filing process. The new client experience highlights all the key moments of the tax preparation process in easy to follow consumer-friendly language and visually appealing graphics, ultimately making the tax preparation process more engaging and transparent, reassuring the client that they are getting the best results for their unique tax situation.

There are many paths clients can take to filing an acceptable return. The Tax Pro, relying on his/her experience, knowledge and judgement, assesses the options and determines the best solution based on each client's individual, personal tax situation.



Source: H& R Block

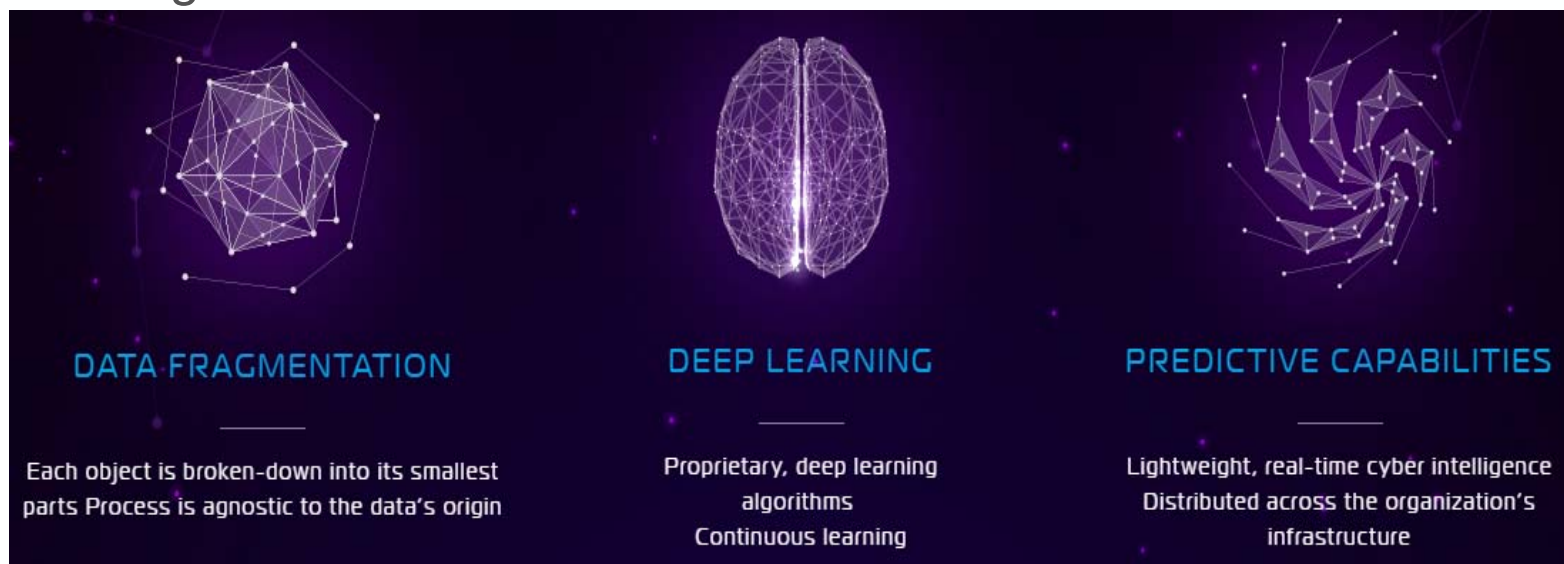
Your Computer May be Doing Your Work...

What Does Watson/IBM – H&R Block Partnership Mean to YOU?

- AI Marketing hype
- Watson knows more than you do?
- How is this any better than a good tax organizer
 - That our clients never compete
 - That we sometimes ignore for same-old-same-old
 - That is sometimes too complex for our clients
- Bottom line: is this really serious competition?

Deep Learning Platforms

- A special type of machine learning
- Artificial neural networks, multiple abstraction layers
- Used for pattern recognition/classification
- Deep Instinct:



Role of AI in Financial Services



https://adtalem.instructure.com/courses/114/pages/lesson-4-industry-pro-vignette-role-and-impact-of-ai-in-financial-services?module_item_id=5141



AI Course Modules

Certificate course details:

- 100% online, self-paced and optimized for all mobile devices
- 4 modules with fresh and current videos by industry experts
- Earn 11.5 CPE credits and a certificate from Becker

MODULE 1

Understanding Artificial Intelligence

An introduction to the basics of AI and its impact on financial services.

- Learning the fundamentals of AI in finance
- Identifying various AI tools in the marketplace
- Discovering patterns in big data sets
- Using automation technology to rapidly reduce costs and improve quality

MODULE 2

Applications of AI for Financial Services

An overview of the potential implementations of AI within an organization.

- Leveraging the use of data analysis to reduce cost
- Integrating AI technologies that shift employee skillsets
- Using predictive analysis to improve customer interactions and services
- Understanding AI and machine learning to detect fraud

MODULE 3

Assessing Your Organization's AI Readiness

A deep dive into determining if your business is prepared for the future.

- Managing stakeholder expectations of AI integration projects
- Developing strategy framework and evaluation methods for AI
- Using internal business metrics and key performance indicators to measure success
- Understanding your data, technical infrastructure and team

MODULE 4

Becoming an AI Champion

A focus on successful implementation of AI solutions.

- Influencing AI projects
- Understanding the leadership and commitment to lead AI projects
- Preparing your plan to integrate an enterprise-wide technological transformation
- Learning strategies to overcome organizational barriers

Pricing



AI for Financial Services Certificate	
Number of Users	Cost per Participant
1 - 9	\$350
10 - 29	\$315
30 - 49	\$280
50 - 99	\$245
> 100	Custom pricing/discount

Thank You



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