# The Business use of AI
## Leveraging AI for Business Value

### *Abstract*

While flashy or exotic applications of artificial intelligence (AI) and other related automation approaches get a lot of press, there are many simple AI approaches that yield business value. The key to success in AI is an awareness of what technologies fit your organization needs. Applying AI technology and concepts to everyday processes makes the work easier, more reliable, and more productive.

*The most nimble and adaptable companies and executives will thrive. Organizations that can rapidly sense and respond to opportunities will seize the advantage in the AI-enabled landscape. (Erik Brynjolfsson and Andrew Mcafee, HBR,)*

Understanding, organizing, integrating and delivering AI is a key issue today. Business must be clear about the use and value of AI to avoid chasing an unachievable and expensive dream. Applying an incremental approach to using AI builds on the understanding that small scope opportunities have a high degree of success.

AI is a collection of technologies that recognize patterns. The patterns replace the tedium people must do in support of a process. Identifying these points of opportunity is the link to applying small and effective AI solutions.

Small projects also provide the insight regarding how well AI is absorbed into the every-day operation. AI carries with it many implications. Jobs change dramatically and current skills may become obsolete and displaced. There may be resistance to change and unrealistic fear of robots taking over as well. However, the positive side promises better paying work, newer and more interesting tasks and less physically demanding and boring operations.

Managers and professionals should prepare for the coming changes. What can we expect from AI capabilities today? What may happen in the future? Answers for these and other questions are part of the value of this course.

This course is key for business managers, strategic planners, marketing analysts, data analysts and architects, planning managers, process analysts, business analysts, business architects, enterprise and IT architects.
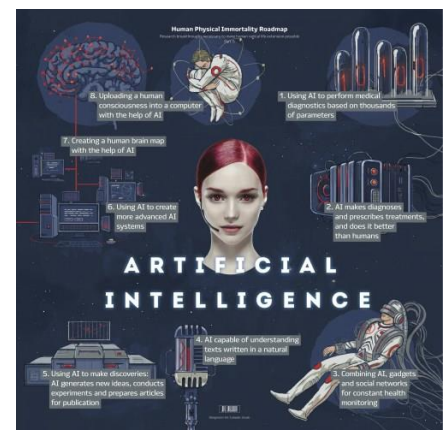
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<u>Day One</u>

## *Session 1 - It's all about patterns*

*Section 1.1:  Artificial Intelligence today*
- What do we mean by AI?
- What is the AI value proposition?
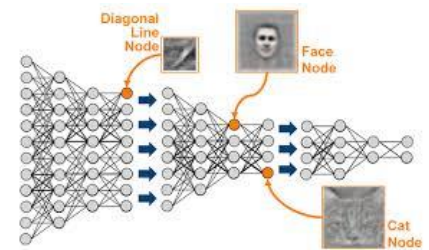- Machine learning versus neural nets

  *Video Discussion – AI Today*

*Section1.2:  AI Techniques - Neural Nets & Machine Learning*
- Why a neural net?
- What do you get from a net?
- How they work
- The idea of machine learning
- Statistical analytics

  *Video Discussion – Understanding Neural Nets*

## *Session 2 – What kind of patterns?*

*Section 2.1:  Image and facial recognition*
- The technique of image recognition
- Uses of image recognition – compliance, crime detection, law enforcement
- Imaging and retail – store layout, shelf space analysis
- Issues with image recognition

  *Topic Discussion – Uses of facial recognition*

*Section 2.2:  Speech Recognition*
- What drives speech recognition?
- Uses of speech recognition – e.g. voice assistants, virtual assistants
- NLP – Natural Language Processing
- Issues in speech recognition

  *Video discussion – Can you depend on text analytical results?*

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## *Session 3 - More patterns*

### Section 3.1:  Text Analytics
- The technique of text analytics
- Uses of semantic recognition analytics –
  - Keyword and related phrase extraction
- Detecting emotions in text –
  - sentiment analysis, summaries, content extraction
- Issues in text analytics

  *Interactive Demonstration – Keyword analysis*

### Section 3.2:  Mapping patterns in data - Deep learning
- What is deep learning about?
- Deep learning and visual recognition, e.g. medical detection
- An example: Fraud detection
- Trusting deep learning results

  *Interactive Demonstration – Sentiment analysis and AI*

## *Session 4 – Applying AI to the Organization*

### Section 4.1:  Operationalizing AI
- Linking AI capability into processes
- Intelligent process automation, analytics and insight
- Machine learning and BPM analytics
- Processes and chatbots
- Limits to AI linkages

  *Video Discussion – AI and BPM*

### Section 4.2:  Added uses of AI in the Organization
- Management application of AI to the workplace
- Integrating AI in products and services
- Emerging uses of AI
- Buyer behavior:
  - 'People who bought this also bought that'

  *Demo and Discussion – Understanding Buyer Behavior*

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Day Three

# Session 5 – Planning for AI

### Section 5.1: Identifying AI Risk
- What technologies should you use?
- Where are the candidates for AI?
- Matching opportunities with technologies?
- Developing risk factors
- The risk 4 – box assessment
- Understanding AI risk

*Exercise – Understanding AI Risk*

### Section 5.2: The AI Roadmap
- Setting up the problem – what is your AI goal?
- What infrastructure will you need?
- The AI portfolio

*Exercise – Identifying your AI Goals*

# Session 6 – Understanding the Impact of AI

### Section 6.1: The promise of AI
- Impact of the AI on the future of jobs
- What work will be gone?
- What work will remain?
- What new work might emerge?

*Exercise – What Job in Your Organization Might go Away?*

### Section 6.2: Summary - The promise of AI
- Management application of AI to the workplace
- Integrating AI in products and services
- Emerging uses of AI
- AI becomes pervasive

*Final Q and A*

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Learning Objectives

*Expected Learning Outcomes (what they will learn):*

- Explain the different uses of AI today

- Understand the techniques used for the different types of AI capability

- Define a roadmap to reach effective use of AI

- Explaining the technology available for AI

- Interpret how AI can help the business

- Select appropriate AI techniques for the business

- Understand the limits of AI

- Suggest operational opportunities for AI