

# Artificial Intelligence: Hype vs. Reality and the Impact on the Patent Industry

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## Our panelists



**Tom Fleischman**

IBM Master Inventor/Senior Patent Engineer, IBM



**Ed White**

Director IP Analytics, Clarivate Analytics

# AI – An Introduction

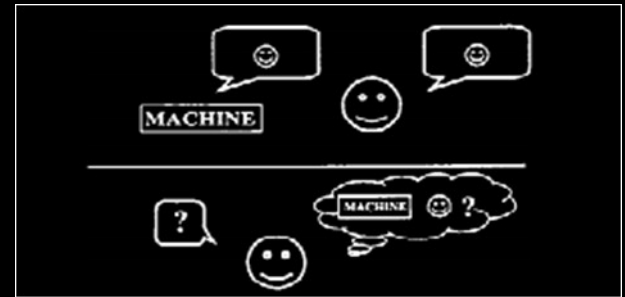
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# What is AI?

- Demonstration of intelligence by machines
- Term commonly used when a machine mimics cognitive human functions such as learning and problem solving
- The Turing Test (1950) determines a machine's ability to exhibit intelligent behaviour equal to that of a human
- Artificial intelligence has been actively researched in mathematics, logic, cognitive science, life science and other areas
- The advent of computing technology in the late 1990s helped the field of artificial intelligence to leapfrog in research and demonstrated the possibility for various applications



## The Turing Test



Saygin, A. P.; Cicekli, I.; Akman, V. (2000),  
"Turing Test: 50 Years Later",  
*Minds and Machines*, **10** (4): 463–518

# The machines are taking over...

- Speech recognition
- Content creation
- Military simulations
- Autonomous driving
- Alpha Go

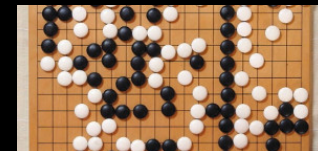
"Siri show me something"



*By Photo: Sgt Si Longworth RLC (Phot)/MOD, OGL,  
<https://commons.wikimedia.org/w/index.php?curid=42137627>*

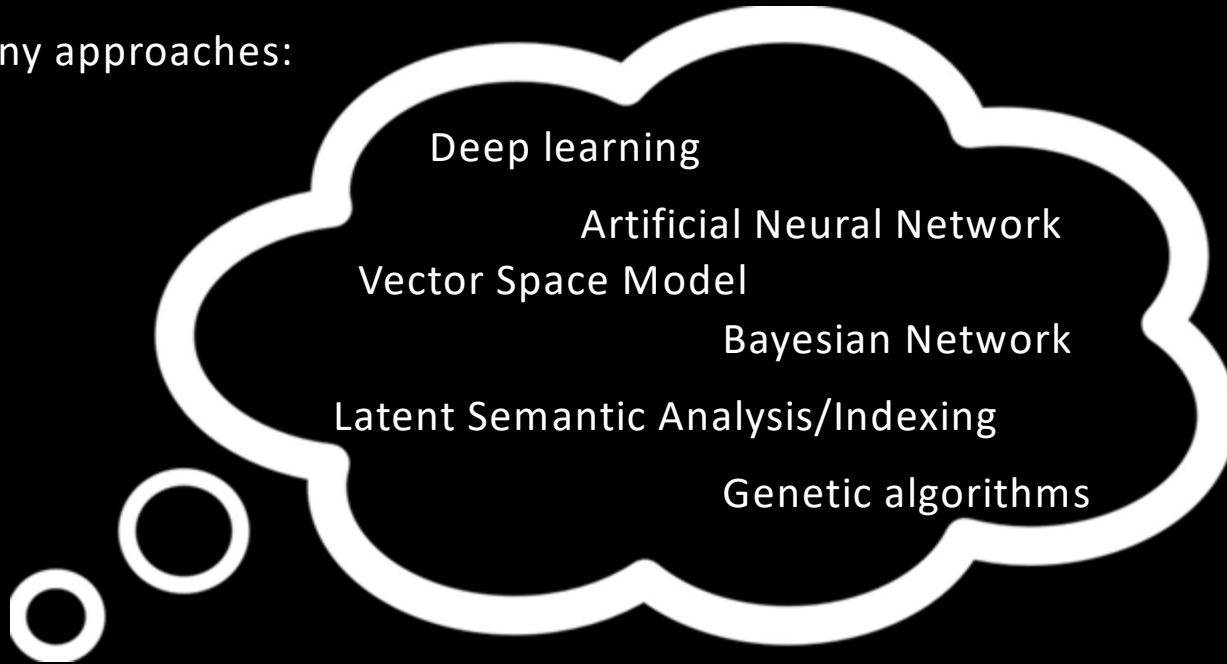


*Image source: Alphabet*



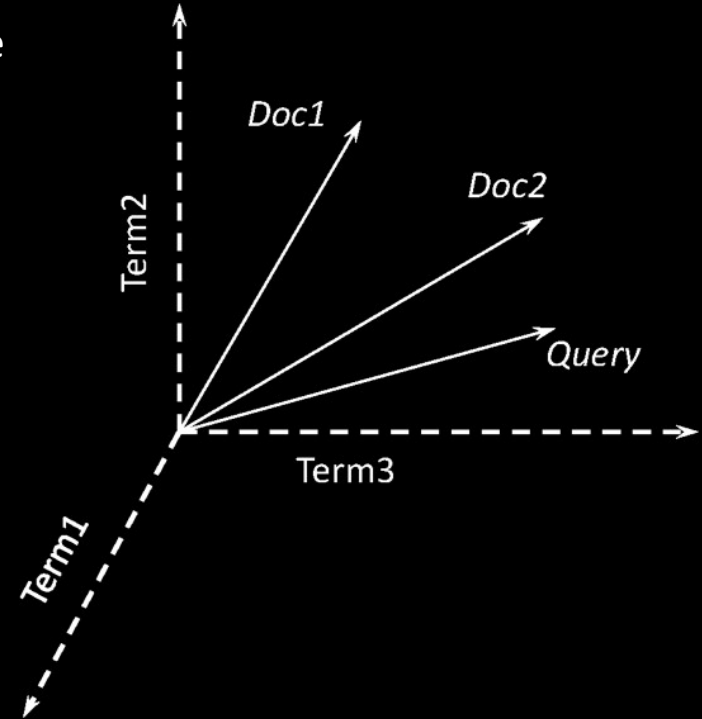
# AI in Information

- AI, or more correctly, Machine Learning is used in the information space to aid search and retrieval of information
- There are many approaches:



# Vector Space Model

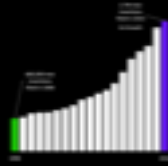
- Documents are represented as vectors in term space
- Queries are represented the same as documents
- Vector distance between the query and documents is used to rank retrieved documents
- Query and document similarity is based on length and direction of vectors





# The information challenge and how AI can help

- There are 3 basic challenges we face
  - Volume
  - Language
  - Complexity/Obscurity
- AI can help
  - Data loading and checking
  - Data classification
  - Document analysis and interpretation
  - Information retrieval and presentation
  - Assisted decision making



Real is the  
truth



Rather than the machines taking over, they are there to help