# E - BUSINESS **BACHELOR OF BUSINESS AND ADMINISTRATION**

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# YOUR ASSOCIATIONS WITH THE TERM ARTIFICIAL INTELLIGENCE

| Thinking Humanly<br>"The exciting new effort to make comput-<br>ers think machines with minds, in the<br>full and literal sense." (Haugeland, 1985)<br>"[The automation of] activities that we<br>associate with human thinking, activities<br>such as decision-making, problem solv-<br>ing, learning" (Bellman, 1978) | Thinking Rationally<br>"The study of mental fact<br>use of computational mod<br>(Charniak and McDermo<br>"The study of the comput<br>it possible to perceive, rea<br>(Winston, 1992) |
|---|--|
| Acting Humanly  | Acting Rationally  |
| "The art of creating machines that per-<br>form functions that require intelligence<br>when performed by people." (Kurzweil,  | "Computational Intellige<br>of the design of intelligen<br>et al., 1998)   |
| 1990)   |  |
| 1990)<br>"The study of how to make computers do<br>things at which, at the moment, people are<br>better." (Rich and Knight, 1991)   | "AI is concerned with havior in artifacts." (Nilss   |

Figure 1.1 Some definitions of artificial intelligence, organized into four

Artificial Intelligence: A Modern Approach, Stuart J. Russell and Peter Norvig (eds.)

| 11   |
|--|
| lly<br>tal faculties through the                 |
| al models."<br>Dermott, 1985)                    |
| computations that make                           |
| ive, reason, and act."                           |
|  |
| ,  |
| telligence is the study elligent agents." (Poole |
|  |
| ed with intelligent be-                          |
| ' (Nilsson, 1998)                                |
| to four categories.                              |
|  |



### DEEP BLUE VS GARRY KASPAROV

Pair of six-game chess matches between then-world chess champion Garry Kasparov and an IBM supercomputer called Deep Blue. Kasparov won the first match, held in Philadelphia in 1996, by 4–2. **Deep Blue won a 1997 rematch held in New York City by 3½–2½.** The second match was the first defeat of a reigning world chess champion by a computer under tournament conditions, and was the subject of a documentary film, Game Over: Kasparov and the Machine.









## A PARADIGMS

#### SYMBOLIC AI



- Symbolic AI is the term for the collection of all methods in artificial intelligence research that are based on high-level symbolic representations of problems, logic and search.
- Symbolic AI developed applications such as knowledge-based web.
- Symbolic AI was the dominant paradigm of AI research from the mid-1950s until the mid-1990s.
- Subsymbolic AI is a field of study in AI concerned with the development and study of statistical algorithms that can effectively generalize and thus perform tasks without explicit instructions.
- Machine learning (ML), deep learning (DL), neural nets, data mining, NLP, language models
- Subsymbolic approach, had been pursued from early days and was to reemerge strongly in 2012. Neural networks were not viewed as successful until Big Data became commonplace.



systems (in particular, expert systems), ontologies, the semantic

### SUBSYMBOLIC AI









Program

## LARGE LANGUAGE MODELS

A large language model (LLM) is a large-scale language model notable for its ability to achieve general-purpose language understanding and generation. LLMs acquire these abilities by using massive amounts of data to learn billions of parameters during training and consuming large computational resources during their training and operation. LLMs are artificial neural networks (mainly transformers) and are (pre)trained using self-supervised learning and semi-supervised learning.



Multimodality means "having several modalities", and a "modality" means a type of input, such as video, image, audio, text, etc.



## EXAMPLES OF LLMS





### GENERATIVE Adversarial network



(GAN) is a class of machine learning frameworks and a prominent framework for approaching generative AI.



The concept was initially developed by lan Goodfellow and his colleagues in June 2014.

In a GAN, two neural networks contest with each other in the form of a zero-sum game, where one agent's gain is another agent's loss.



# EXAMPLE

https://www.youtube.com/watch?v=F4G6GNFz008



Wirtualnemedia.pl > Technologie > Sztuczna inteligencja

### Jarosław Kuźniar wykorzystuje sztuczną inteligencję. "Zaczynamy się dobrze dogadywać"

Część podcastów studia Jarosława Kuźniara od dwóch miesięcy jest czytana przez sztuczną inteligencją wykorzystującą głos dziennikarza. W rozmowie z Wirtualnemedia.pl Kuźniar zapowiada użycie AI także w innych formatach. - Ciekawy eksperyment, ale czy ma szansę zrewolucjonizować rynek? - zastanawia się Wojtek Kardyś.

#### Sztuczna inteligencja

| autor: |  |
|--------|--|
| jsx    |  |



2023-04-11



Spółka związana z Play i UPC

🛉 Podziel się 🈏 in 🕺



komentarze 23



Dzisiejsza gazeta (e-wydanie)



WYBORCZA.PL TECH MOTORYZACJA PRACA ENERGIA MÓJ BIZNES EMERYTURY FINANSE OSZCZĘDNIK NIERUCHOMOŚCI KOMUNIKATY.PL WIĘCEJ

### Deepfaki w kampanii wyborczej. PO stworzyła głos Morawieckiego przy pomocy AI. Otwiera się nowy etap walki politycznej

DEEPFAKE 24.08.2023, 12:36





 Fragment wideo wyborczego Platformy Obywatelskiej z głosem Mateusza Morawieckiego wygenerowanego przez sztuczną inteligencję (Twitter/Platforma\_org)



## HOW TO DETECT AI-GENERATED **CONTENT?**

### New Al classifier for indicating AIwritten text

written text.

Research ~ Product ~ Developers ~ Safety Company ~

We're launching a classifier trained to distinguish between AI-written and human-



# THANK YOU

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