

Artificial Intelligence (AI) Application in Business

L. Ahmad Hoshiar

Definition of AI

- ▶ **ARTIFICIAL INTELLIGENCE (AI)** is the intelligence of machines and the branch of computer science that aims to create it.
- ▶ It is the study and design of intelligent agents.
- ▶ AI is a broad discipline that promises to simulate numerous innate human skills such as automatic programming, case-based reasoning, neural networks, decision-making, expert systems, natural language processing, pattern recognition and speech recognition etc

Importance of AI

- ▶ Enterprises that utilize AI-enhanced applications are expected to become more diverse, as the needs for the ability to analyze data across:–
 - ▶ Multiple variables
 - ▶ Fraud detection
 - ▶ Customer relationship management

Emergence of AI in business

- ▶ Artificial Intelligence aims to improve machine behavior in tackling complex tasks.
- ▶ Humans have an interesting approach to problem-solving, based on abstract thought, high-level deliberative reasoning and pattern recognition.
- ▶ Artificial Intelligence can help us understand this process by recreating it, then potentially enabling us to enhance it beyond our current capabilities.

Applications of AI

Business applications such as:-

- ▶ Unknown patterns/relationships in sales data
- ▶ Customer buying habits
- ▶ Complex problem-solving and decision-support techniques in real-time business applications.
- ▶ AI techniques are spread across functions ranging from finance management to forecasting and product

Artificial Neural Networks

- ▶ An artificial neural network (ANN) is a mathematical model or computational model based on biological neural networks.
- ▶ It consists of an interconnected group of artificial neurons and processes information using a connectionist approach to computation.
- ▶ In practical terms neural networks are non-linear statistical data modeling tools. They can be used to model complex relationships between inputs and outputs or to find patterns in data.

Real life applications of ANN

- ▶ **The tasks to which artificial neural networks are applied tend to fall within the following broad categories:**
 - Function approximation, or regression analysis, including time series prediction and modeling.
 - Classification, including pattern and sequence recognition, novelty detection and sequential decision making.
 - Data processing, including filtering, clustering, blind source separation and compression.

Advantages of ANN

- ▶ View your best product runs and the corresponding settings.
- ▶ Increase efficiency and quality by using optimal settings from past production.
- ▶ Artificial Intelligence can optimize your schedule beyond normal human capabilities.
- ▶ Increase productivity by eliminating downtime due to unpredictable changes in the schedule.

AI in Financial services

- In the field of Finance, artificial intelligence has long been used. Some applications of Artificial Intelligence are:–
 - ❖ Credit authorization screening
 - ❖ Mortgage risk assessment
 - ❖ Project management and bidding strategy
 - ❖ Financial and economic forecasting
 - ❖ Risk rating of exchange-traded, fixed income investments
 - ❖ Detection of regularities in security price movements
 - ❖ Prediction of default and bankruptcy
 - ❖ Security/and or Asset Portfolio Management

Artificial Intelligence in Marketing

- ▶ **In Marketing, Some applications of Artificial Intelligence are :-**
 - ❖ Computerized neural networks
 - ❖ Customer relationship management (CRM).
 - ❖ High-tech data mining can give companies a precise view of how particular segments of the customer base react to a product or service
 - ❖ Buying patterns, analytics could help companies react much more quickly to the marketplace.

Artificial Intelligence in HR

- ▶ **Some applications of AI in HR are:-**
- ❖ Use of neural networks and fuzzy logic in human resource information system(HRIS).
- ❖ fuzzy neural network, to construct a new model for evaluation of managerial talent, and accordingly to develop a decision support system in human resource selection.

Conclusion

- ▶ It is difficult for business to see general relevance from AI. AI can have a positive effect for business benefit and has led to some very useful systems that have found their way into the heart of business activity. Business should not lose sight of where AI could go because there are many potential benefits to current and new businesses of future research. The idea of robotic domestic workers is still far fetched but companies are making progress even here. There is already a Robot Vacuum Cleaner marketed by Electrolux and doubtless improved systems with better functionality will follow. .



THANK YOU....