



# AI: Opportunities and Challenges

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# Artificial Intelligence: What, Where, How

- Definition:
  - Ability of computers or computers controlled robots to exhibit intelligent behavior, usually associated with humans
- Areas
  - Natural language processing (NLP)
  - Computer vision (object recognition)
  - Knowledge discovery
  - Data mining
  - Smart planning and decision making
  - Game playing
- Tools
  - Artificial Neural Networks
  - Machine Learning
  - Evolutionary Algorithms
  - Deep learning
- AI algorithms are classified as data driven, i.e. quality of the generated output relies heavily on the amount of data used (for training or self adaptation)

# Artificial Intelligence: Opportunities - 1

- AI started in research labs with (historically) limited computing, data and storage resources
  - Hard to apply to real world cases
  - Off line performance
- The emergence of cloud computing, improved Machine Learning algorithms, big data, announced a new era of Cloud based AI services
- Linked with IoT, and Blockchain technology, AI might change how societies perform and behave

# Artificial Intelligence: Opportunities - 2

- Adopting AI means (in general):
  - Higher efficiency and less waste in our day to day operations (BOTS, object recognition, automatic translation, just on time maintenance, traffic control, crime management, ...)
  - Highly accurate analysis and feedback
  - Fraud detection and more transparency
  - Proactive decision making (preemptive Governance)
  - Better understanding of the society

# Artificial Intelligence: Challenges - 1

- Technical Challenges/Policies:
  - Public Cloud Policy:
    - Most AI algorithms run efficiently on the public cloud.
      - We need to have a public cloud policy to manage the flow of data outside the country (if needed)
  - Broadband/Connectivity policy:
    - IoT and AI require a good connectivity infrastructure.
      - Broadband policy/initiative
      - DSA, M2M, and other connectivity models
  - Privacy Policy:
    - How personal data is managed (stored, processed, hashed, ...)
    - User rights to his/her data
  - Cybersecurity Policy:
    - How data is secured (on premise and on the cloud)

# Artificial Intelligence: Challenges - 2

- Societal Challenges/Policies:
  - How AI tools will affect Job security and creation?
    - Health, Education, Social programs, services delivery,.....
  - Taxation Revisited:
    - Taxation of a Robo worker?
  - Education re-invented:
    - What should tomorrow's curricula look like for a competitive 'worker'?
    - 'Democratizing AI' or AI for all
  - How much can you 'trust' an AI based decision?

Thank you