Artificial Intelligence in Business

Application

- **Rule-based** machine learning to gather business insights in support of high-level business decision making (regression- and tree-based algorithms)
  - Credit scoring and risk prediction
  - Market segmentation and customer retention/uplift modeling

- **Data-driven** machine learning to efficientize low-level business process (NN-based algorithm)
  - AI fashion model
  - Massive online targeted advertising
  - Front line customer services (e.g., AI powered chatbot)

- Automation to optimize business operation and production
  - Autonomous vehicles for transportation and logistics
  - Industrial robotics for production, warehouse management, and so on (e.g., automation in meat processing)

Philosophy

- Business benefits from AI technologies primarily because we are in the **third AI wave**
  - Human behavior is the driving force of all business activities (the key lesson we learn from the COVID-19 pandemic)
  - Human behavior generates BIG behavioral data and the big data can be processed by high-performance computers to better understand human behavior

- It is not really about **Artificial Intelligence**, it is about **Collective Intelligence**
  - Business performance is improved by combing human intelligence and machine intelligence together
  - Optimizing collaboration between human and machine

- Roles of AI in business
  - Tool (e.g., automatic spelling)
  - Assistant (e.g., cruise control)
  - Peer (e.g., AI for fraud detection)
  - Manager (e.g., smart city)

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