Deep Learning for Business

Business with
Deep Learning & Machine Learning

Business Strategy with Machine Learning & Deep Learning

Business Strategy with ML & DL

How ML & DL is being used in CRM

1. Build a labelled dataset of customer sales records
   - Up-sell, Cross-sell
   - Postponed, Withdrew

2. Correlate data with previous communications and online activity

3. Correlate data with other customers based on age, gender, occupation, region (living, working), etc.

Up-sell vs. Cross-sell

Up-sell (Upsell)

– Persuade a customer to buy more
(of the same product type) than the
customer had originally intended

Cross-sell

– Persuade a customer to buy more
of other products than the customer
had originally intended

– Can be seen as a part of up-sell

Up-sell vs. Cross-sell

Up-sell & Cross-sell Methods

- Sell a more expensive model
  - Smartphone with more memory
- Sell multiple units
  - Buy 2 get 1 free
- Add on more options & features
  - Automobile with more/full options
- Add on a warranty & insurance

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How ML can help to improve sales growth

– Improved predictive accuracy in sales leads
  and market churn

– Optimized propensity strategies are
  enhancing up-sell, cross-sell, and
  omnichannel selling

– Significant improvement in sales cycle time

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How ML can help to improve sales growth

– When a miscalculation is detected,
  ML algorithm correction and data analysis
  is redone within seconds

– Improvements in customer satisfaction score
  and customer lifetime value

– Effective in optimizing supply chain networks

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How ML can help to improve sales growth

– Increases demand forecast prediction accuracy

– Permeate comprehensive business value chain data

– For new business strategies, ML can be used to generate synthetic data through extrapolation and projection of existing data

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How ML can help to improve sales growth

– Cloud based online storage and public cloud services (SaaS, PaaS, IaaS) can be purchased on demand, anywhere, affordably

– No other way to analyze all the IoT, Smartphones, SNS generated Big Data
  • Structured data, Semi-structured data, Unstructured data
  • Real-time data, Non-real-time data

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How to use ML in Business Strategy

Stage-1: Preparation Stage

– Study your company's portfolio and characteristics

a. Regional & domestic sales portfolio

b. International sales portfolio

c. Business objectives, product/service domain, strategy

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How to use ML in Business Strategy

Stage-1: Preparation

– Study your company's portfolio and characteristics

d. Customer characteristics

e. Analyze your company's SWOT

- Strength, Weakness
- Opportunity, Threat

Strength 1, 2, 3,…	Weakness 1, 2, 3,…
Opportunity 1, 2, 3,…	Threat 1, 2, 3,…

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How to use ML in Business Strategy
Stage-2: Business Modeling

1. Build ML Model

  1.1 Carefully choose interest items X and Y

  1.2 Collect data related to X and Y

  1.3 Use ML to figure out the
      X ➜ Y relationship

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How to use ML in Business Strategy
Stage-2: Business Modeling

2. Check ML Model & Results

  2.1 Recheck your ML model with
      other experts

  2.2 Compare ML data analysis results with
      preexisting company data to reconfirm
      validness of your ML results

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How to use ML in Business Strategy
Stage-2: Business Modeling

2. Check ML Model & Results

   2.3 Recheck if collected data related to X and Y was sufficient for statistical analysis

   2.4 Confirm level of accuracy, reliability, stability, etc.

   2.5 Cross check your data analysis results with other experts

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How to use ML in Business Strategy
Stage-2: Business Modeling

3. Build your Business Strategy

   3.1 Identify where the value exists

   3.2 Identify what is unique and difficult for other companies to copy

   3.3 Seek new ways to add on value to your company

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How to use ML in Business Strategy

Stage-3: Model Rechecking & Adaptation

4. Check your new business model as it is
     implemented/activated in your company

  4.1 Realize that once your company makes its
        new move, other companies with make
        counter moves (like a in game) that will
        result in factors that were not considered
        in the ML data analysis

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How to use ML in Business Strategy
Stage-3: Model Rechecking & Adaptation

4. Check your new business model as it is
implemented/activated in your company

  4.2 Consistently recheck market changes
        and competitor companies

  4.3 Make modifications to X and/or Y

        and corresponding data sets

  4.4 Repeat steps 1~4

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