An applied marketing perspective on machine learning

CODE Research Symposium 2019

Professor Leo Paas
(Department of Marketing, The University of Auckland Business School)
Strategic goals and analytics
44 Trillion Gigabytes by 2020
Machine Learning Algorithms (sample)

Unsupervised
- Clustering & Dimensionality Reduction
  - SVD
  - PCA
  - K-means
- Association Analysis
  - Apriori
  - FP-Growth
- Hidden Markov Model

Supervised
- Regression
  - Linear
  - Polynomial
- Decision Trees
- Random Forests
- Classification
  - KNN
  - Trees
  - Logistic Regression
  - Naive-Bayes
  - SVM


Unsupervised ML

Supervised ML

Income

Age

Driver and Kroeber (1932)

Pearson and Galton (+/- 1900)

55

90K
Marketing applications

• Unsupervised machine learning (grouping):
  • Customer segmentation – Grouping people
  • Association rules – Grouping products
  • Perceptual mapping – Grouping brands

• Supervised machine learning (predicting):
  • Prospect selection for product offers
  • Churn modelling
  • Credit scoring
Prime contribution of AI

The summing up

• Define the main strategic and/or tactical goals
• Analyse data, big or small, by grouping (unsupervised ML) or predicting (supervised ML) ➔ Keep it simple
• Use AI or deep learning for unstructured data and natural language
• Implementing outcomes in business processes!
Observe:
Engineers in their natural habitat

Please do not tap on glass or make eye contact with them as engineers are easily frightened by normal people. Please do not feed the engineers as they are on a strict diet of energy drinks and cold pizza.