



Information for actionable intelligence in retail.

Background - Marketing





Motivation

What is our Business impact?

- Information for actionable intelligence
- ML to predict promotional success in retail market



Solution (1/2)

- Preprocessing
 - Outlier handling
 - Normalizing
 - Null handling
 - Unbalanced dataset

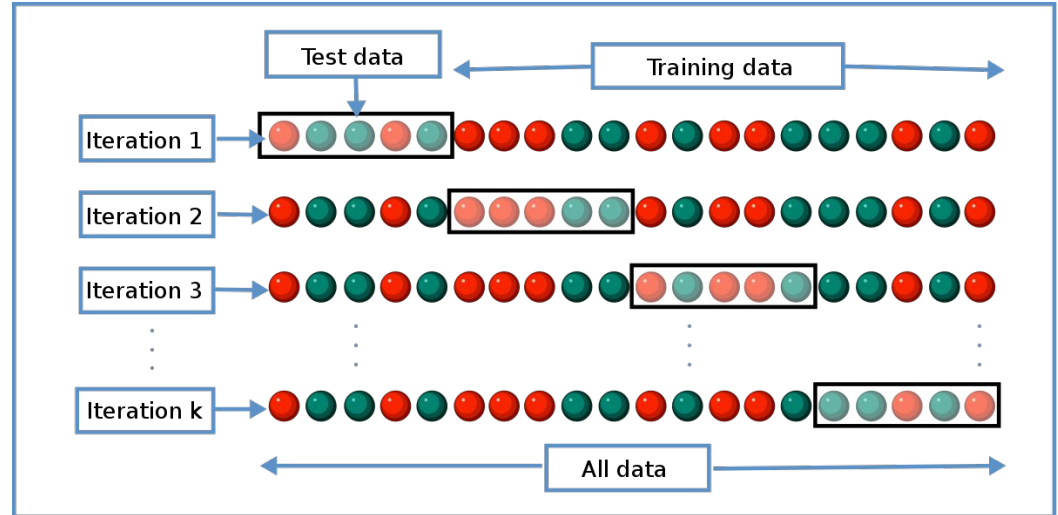


Solution (2/2)

- Models
 - SVM, logistic regression
 - Random forest
 - Deep neural networks
 - XGBoost

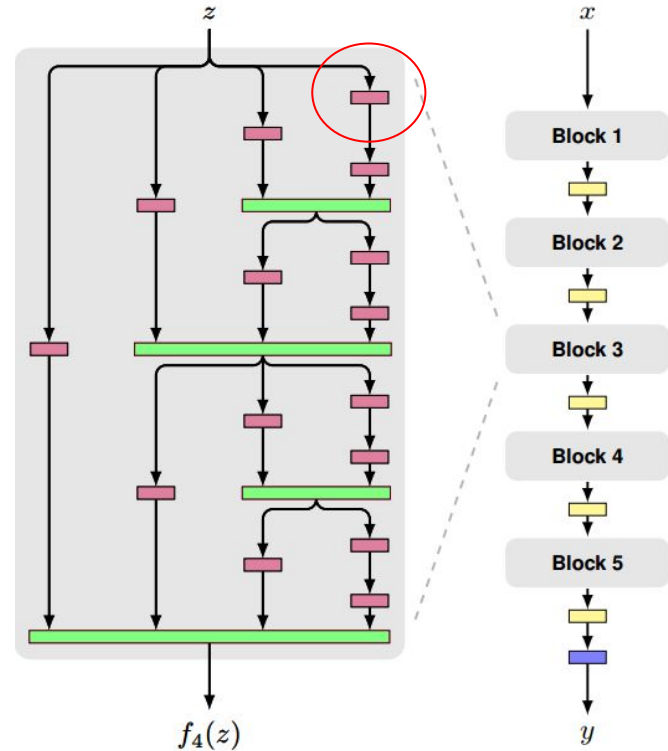
Evaluation metrics

- 10-fold cross validation
- Confusion matrices (Accuracy, Precision, Recall)



Further improvements (1/2)

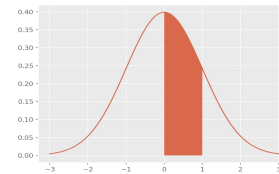
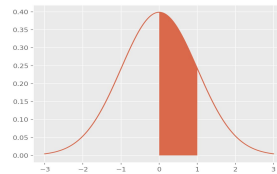
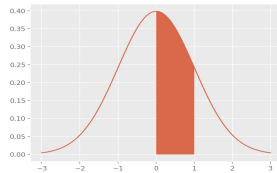
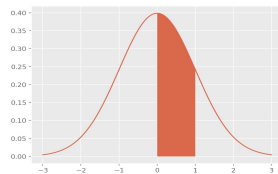
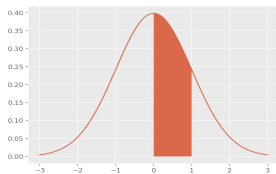
Improve neural network model by residual connections to enhance backpropagation



Further improvements (2/2)



Field A	Field B	Field C	Field C	Field D
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1.0	2.45	NULL	NULL	100.8
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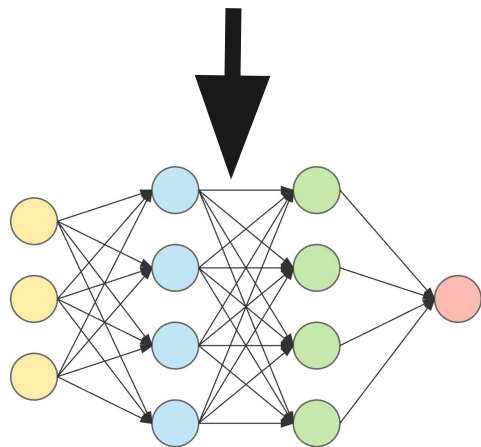
1.0	2.45	15	45	100.8
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1.0	2.45	84	12	100.8
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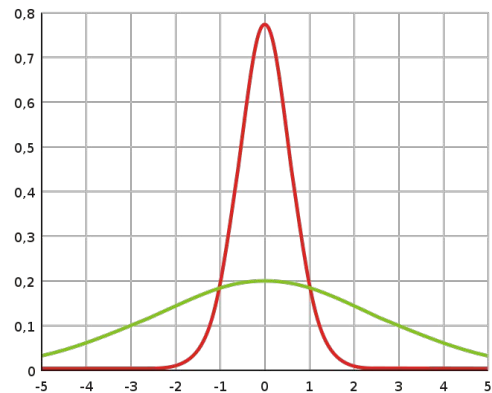
1.0	2.45	88	65	100.8
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1.0	2.45	15	45	100.8
1.0	2.45	84	12	100.8
1.0	2.45	88	65	100.8



Input layer Hidden layer 1 Hidden layer 2 Output layer





Thank you!

Q and A ?