|  |  |
| --- | --- |
| Use Case | ML and DL |
| Generating customer traffic leads | **What they did**: Fed the model bunch of data that the users bought of pictures, to classify styles and textures of clothing in order to recommend them more items by using CNN |
| Direct Marketing responses | [Direct marketing response models](https://sci-hub.tw/10.1287/mnsc.1060.0514)  **What they did**: they gathered the users data from what they bought in the past 12 months, what they searched and etc and modeled it with BN and EP to find the best accuracy model  **Regression have been popular** but they make assumptions on the types of data and their  distribution, and typically can only handle a limited number of variables. Regression-based methods are usually based on a fixed-form equation, and assume a single best solution, which means that researchers can  compare only a few alternative solutions manually  **Uses BN + EP is easy to execute and efficient with large data.**  **EP=** parallel search tool for identifying accurate models from all possible hypotheses  And it is good for discovering new knowledge from noisy data  **EP c**an help researchers to gain fresh insight into research problems by exploring relationships that were not anticipated, and provide a viable alternative approach that can complement traditional methods.  **BN= h**ard to comprehend for regular users but prediction accuracy is high  CON  **For direct marketing models**, false negatives are much more costly than false positives. The loss from false positives is the cost of mailing, but the opportunity cost from false negatives—the loss of potential sales (US$80 on average in this case) and profit—is often much greater |
| ROI | [Repeat purchase modeling in direct marketing](https://sci-hub.tw/10.1016/S0377-2217(01)00129-1)  ROI-Based modeling  <https://dl.acm.org/citation.cfm?id=3191746>  **What they did:** they tracked data from mobile phones on gps and asked the question to user if they will be going into an ROI or not? If so where? Then they collect that data for a certain amount of time to predict future flow  Study more on the dataset so we can implement this for our own. |
| Type of customers | Personality type from text  <https://sci-hub.tw/10.1109/MIS.2017.23>  **What they did:** they trained 5 different models to learn each personality trait (extroversion, neuroticism, agreeableness, conscientiousness, openess) by They fed the CNN with essays with the outcome of binary weather this trait was positive or negative. They used CNN to model with regular data preprossing and filtering then finally to classification. |
| Telemetry to detect anomaly | Telemetry to detect anomaly in systems for space  <https://sci-hub.tw/10.1109/SMC-IT.2006.79>  They used limit checking by using **RVM** (Relevance vector machine) also known as spars Bayesian learning, it is kernel based regression and classification method. Good for limit checking for because it is able to predict the probability density distribution or range of a target variable whereas SVM gives only a point estimation.  **What they did:** monitored bus currency, voltage, angular velocity, temperature, and so on are within pre-determined ranges which are specified by upper and lower limits, and issue a warning if any of them is violated. Then they used RVM to predict probability density distribution or range of a target variable. SVM would be similar but it only gives a point estimation.  Comments from Prakash: RVM can give us better results  Anomaly prediction others |

Green-Phansy <3

Orange-Smriti

Text analysis for twitter

<http://www.aclweb.org/anthology/S17-2088>

Top things to look into

Recommendation: RNN xbox recommendation

Customer life time value

ROI mobility: RNN -> azure document to predict intent

Telemetry - > RVM server cashing anomaly prediction

Fault and performance management in multi-cloud using autoencoders

Financial time series LSTM -> complex forecasting

Customer Learning prediction – linked in learning

Sentiment analysis -> CNN how the market is feeling about this stocks market

Product performacing tuning ->DNN dynamic sls for support

How, what data it takes as input 😊 translate data that algorithm can understand