PUTRA Business School

Nurturing Human Leaders

CRYSTAL BALL, CLAIRVOYANT, FORTUNE TELLING… CAN PREDICTIVE ANALYTICS DELIVER THE FUTURE?

VILASINI NARAYANAN GM04966

UMA DEVI MUNIYANDI GM04926

MANY PREDICTIVE ANALYTIC MODELS ARE BASED ON NEURAL NETWORK TECHNOLOGIES.

1

WHAT IS THE ROLE OF NEURAL NETWORK IN PREDICTIVE ANALYTICS?

HOW CAN NEURAL NETWORKS HELP PREDICT THE LIKELIHOOD OF FUTURE EVENTS.

(IN ANSWERING THESE QUESTIONS, SPECIFICALLY REFERENCE BLUE CROSS BLUE SHIELD OF TENNESSEE.)

- Traditionally analysts in retail, manufacturing and many other industries use a variety of statistical methods to solve a range of problems in forecasting, data classification and pattern recognition. Some of these methods include regression analysis, logistic regression, survival and reliability analysis and auto-regressive integrated moving average (ARIMA) modeling. However, because each of these methods uses different software algorithms with different data assumptions, forecasters must learn to use an assortment of tools to solve problems and produce best solutions (answers).
- Neural networks can replace all of these methods and produce forecasts as accurate as or better than those available from other statistical methods. Advantages of neural networks are improved accuracy over traditional statistical methods, a unified approach to a wide variety of predictive analytics problems and they requires fewer statistical assumptions and can manage complex predictive analytics tasks in a more automated way, which saves time for analysts and programmers.
- With these it could help to for see the patterns of failures in heart, kidney or diabetics and find the solutions.

2

What is the Richmond police began to add demographic data to its predictive analytics system to further attempt to determine the type of person (by demographic) who would in all likelihood commit a crime. Is predicting the type of person who would commit a crime by demographic data (ethnicity, gender, income level and so on) good or bad?

It can be possible for both good and bad. As in good side it will narrow down to the result with possible heads that might cause the crime. It will able to assist to find the crime sooner. As in from bad side when people are being suspected it could also might include people who are not involve. They might end up in sue the police who non crime act but being suspect wrong person.

3

In the movie gattaca, predictive analytics were used to determine the most successful career for a person. Based on DNA information, the system determined whether or not an individual was able to advance through an educational track to become something like an engineer or if the person should complete only a lower level of education an become a janitor. The government then acted on the system's recommendations and placed people in various career tracks. Is this is a good or bad use of technology?

How is this different from the variety of personal tests you can take that inform you of you aptitude for different career?

- Placing in various kind of career track is good to identify the individual's skill and expertise. Some people may have high educational background but when comes to practically the implementation were not able to place at the right place and right time. This is where the individual requires training and hand on activity at the field. In fact soft skills also valuable for the people who lined up at the technical sides.

- An aptitude is a component of a competency to do a certain kind of work at a certain level, which can also be considered as talent. Aptitudes may be physical or mental. Aptitude is not knowledge, understanding, learned or acquired abilities (skills) or attitude. The innate nature of aptitude is in contrast to achievement, which represents knowledge or ability that is gained. With various type of question assist to see where we are locating and what are our skill and expertise.

4

What role can geographic information systems (giss) play in the use of predictive analytics?

As you answer this question, specifically reference to fedex's use of predictive analytics to

(1) determine which customers will respond negatively to a price increase and

(2) project additional revenues from proposed drop-box locations.

- Geographic information system (GIS) is rooted in intellectual practices, populated by data and powered by mathematical analysis. The main use of GIS is for spatial analysis, predictive modelling, cartography and visualization. GIS are computer based tools for mapping and analyzing features and events on earth. GIS technology integrates common database operations such as query and statistical analysis with the unique visualization and geographic analysis benefits offered by maps. Thus, the use of GIS is needed to collect data, store, manage, analyses and produce useful information. In other words, the process of GIS is to input sets of raw data to produce useful output information. Despite the vast potential applications of GIS, the means of integrating the pervasive role and influence of the technology have not kept pace with the current developments and techniques. Put more simply, the use of GIS has not reached its potential because users are unaware of the possibilities for an integrated GIS in situations where spatial location is involved.
- Fedex uses predictive analytics to determine which customers will respond negatively to a price increase. If they incorporate GIS then they would able to have a map of locations where people are stingier than others. The also use it to project additional revenues from proposed drop-box locations. By using GIS they can future spots where they can make more revenue.

5

- The department of defense (dod) and the pacific northwest national laboratory are combining predictive analytics with visualization technologies to predict the probability that a terrorist attack will occur. For example, suspected terrorist caught on security cameras who loiter too long in a given place might signal their intent to carry out a terrorist attack.
- How can this type of predictive analytics be used in an airport?
- At what other building and structures might this be used?

This could be used in airports the same way they suggested. Put up cameras around the building and if a suspected terrorist seems to be loitering or intending to carry out a terrorist attack, we can arrest them. Especially for an airport, if the system could pick up on traits such as how much luggage they may carry, what the wear and how long they stay in terminal. This could be used in museums, theaters, concerts, banks or important office buildings.

THANK YOU