Week 3

Data Science in Business

How Data Science is saving Lives

Understanding Huge datasets and analyzing them has a huge advantage on human lives.

Gives targeted insights on how to best treat a patient and help natural disasters so that people can prepare early,

In healthcare data scientist use predictive analytics developed from

data mining,

data modelling,

stats,

ML

This type of predictive analytics examines all known factors for a disease, including gene markers, assiciated conditions and environmental factors.

Then recomments

Approtriate test

suitable trials

Suggested treatments

Every individial physician has their own knowledge gained from experiences.

Data Science system that uses predictive analytics ensures that all physicians can also access latest info , tests and treatement plan that are tailer made for a specific patient.

As everyone has the same info, this increases consistency in options offered to the patients.

For example, a study by the Boston Consulting Group and AdvaMedDx, an industry association of medical diagnostics companies, examined the barriers to the adoption of potentially lifesaving diagnostic tests for patients with a specific cancer and a particular gene marker.

The study discovered that the biggest factor in the patient being offered a specific test was the patient’s oncologist, who may or may not have known about the test and its relationship to the gene marker

By providing extra information through data science tools, physicians can be made aware of the most helpful tests and treatments for a specific patient

There are many opportunities to explore other ways to mine data, such as from electronic medical records for different types of medical research.

EMR gave a lot of anonymous medical data.

Developing more sophisticated big data analytics capabilities helps healthcare organizations move from basic descriptive analytics towards predictive insights, thanks to data science.

Data Science is being used for disaster avoidance and management.

Earthquakes

Hurricanes

Tornados

Floods

Volcanic eruptions can be predicted using data science.

Recent research at the University of Warwick in the UK used social media content such as photos and keywords to track the development of floods, hurricanes and other weather events.

Schools are starting to include these types of data science.

For Example

Ms in Threat and Response Management.

Data Science can use data from wide range of sources and presente info in a way that allows data scientists to gain new knowledge and save hundreds of lives.

Should Companies get started with Data Science?

If business cannot measure something, they cannot improve. So they cannot reduce cost or improve product potentialy making a business dorment and eventually die.

1 Hire employees with Data Science Experties

2 Start recording data

cost

manfacturing costs,

labor costs, material costs,

cost to market and sell product,

and the total cost,

Revenues-

which segment gives more revenue,

which product gives more revienue,

archive the data. Dont delete it. Make sure its consistent.

1. Clean it
2. Then apply algorithm.

**Applications of Data Science**

Data Science and Big data are making changes in dat-to-day operations, financial analytics, and how they interact with customers

Business grows with data.

Examples:Everyone generated data. Patterns can be observed

Ecommerce product recommendation. (Recommendation Engine)

Amazon, Netflix and spotify

Siri uses data science to answer your questions

Google watches every move in the digital world and serves ads.

Not only mobiles and laptops, even wearables can track different info.

Statements were made that data science awill fundamentally change the businesses operate, improves productivity,growth and innovation

2013

UPS uses data from customers, delivery guys and vehicles to find best routes.

helps save time, fuel and untimately money.

How does a company gain advantage?

Ex: Netflix: collect data on what people watch, when they pause, rewind, which cast they search for and so on.

Netflix will know if the show will be a hit or not before even starting production

David Fincher

Robin Wright

House of Cards

People who liked David Fincher, also likes Robin Wright and House of Cards.

So buying the House of Cards was the perfect choice.

Careers and Recruiting in Data Science

Can Someone Become a Data Science

For Team Leaders

Phds

Computer Science, Math, Databases, Statistics, probability

For Team members:

Needs to be a programmer.

Computational Thinking

Algebra

geomery

Calculus

basics of probability and stats.

Statistical Dustributions and databases.

Start with Databases.

Further, CS Theory, stats, probability

What is the role of a self- learning in data science?

Hadoop, articles, videos, build

New terms HPC Cluster Beowolf Cluster.

Where should data Science fit in the org structure?

The place i can’t sit under is CIO.

Recruiting for Data Science.

Looking for people with all skills

Domain Specific Knowledge

Excellent Analyzing structured and unstructured data

Great at presenting.

Its like finding a Unicord and its pretty rare to find it all in one person.

Find the person who has the most resonance with your firm’s DNA

Curiosity

Sense of Humor

Story Telling.

lastly technical skills.

Should be able to work with Data and Present it. Be relatable.

Math and Stats, problem solving.

Tech Skills

Platform - if you would like to work on Traditional Market Research then the tech skills are different from the skills for big data.

if you are working with unstructured data then python would be good tool.

If you are working with Big data, then Hadoop, Spark.

Ability to communicate your findings.

verbally or presentation or a Document.

New tool : Zeppelin

Careers In Data Science

IOT and distributed computing made it possible to analyse a lot of data.

We need to how to shape data and what to do with it.

Data Science helps us there.

Companies like Linkedin, Glassdoor, Indeed and Dice track career trend and Data Science is moved to the top.

Data Science applies in any field

if you want to workwith data, enjoy coding, Math & Stats, Storyteller then you can enter Data Science field.

Aquire additional skills

Continuously learning new techniques.

Stanford Institure of Computational and Mathematical Computing educate everyone on Data Science

tailor skills for a specific area. Add skills that are missing.

High School Students and Data Science Careers

Databases

Programming

Math

Prob, Stats

Apply it and Build it